Modern PACKAGING

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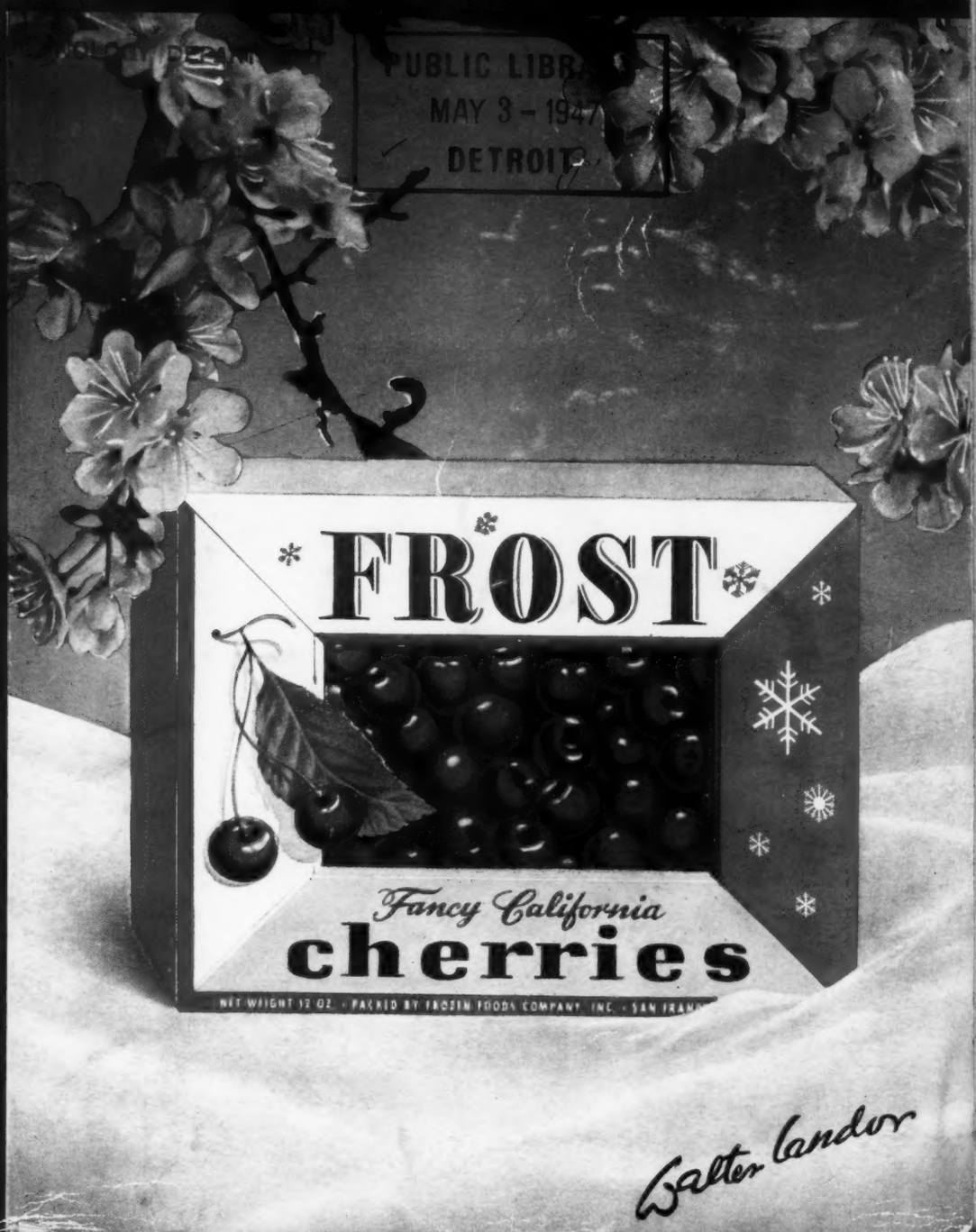

SEE COVER STORY PAGE 95

APRIL 1947

Walter Landor

Gluing the freight claim dollar together

Shipping damage can now be reduced up to 100%. How? With LOAD-LOK* adhesive – *which has been fully approved by the Association of American Railroads for glued unit loading.* What equipment is needed? Only an inexpensive glue pan installation on your loading conveyor. How is glued unit loading done? As fully explained in Bulletin No. 506 – Progress Report on Glued Unit Loading System – issued by the Association of American Railroads.

Glued Unit Loading is of vital interest to all palletized or unitized carload shippers of canned goods, light bulbs, china, bottled goods and all other fragile or crushable materials – regardless of their containers. We'd like to send you a copy of the AAR Bulletin No. 506 on Glued Unit Loading; and we'd like to tell you about LOAD-LOK Adhesive. Address: 270 Madison Avenue, New York 16; 3641 So. Washtenaw Ave., Chicago 32; 735 Battery St., San Francisco 11; and other principal cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto and Montreal. In England: National Adhesives, Ltd., Slough (*Reg. Trade Mark)

National ADHESIVES

EVERY TYPE OF ADHESIVE FOR EVERY INDUSTRIAL USE

top parade

NOTHING LIKE a sunshiny Easter Sunday to bring out a parade of attractive, though crazy, spring bonnets. But package millinery—metal caps, that is, have to do a "Barnum & Bailey" every shopping day of the calendar year.

On shelves, in show windows and display cases, on counters, and in hidden corners of crowded retail stores, attractive metal caps win *extra attention* for glass packages and *extra consideration* for the varied products they seal.

But metal caps should be something more than just pretty. They have a job to perform.

They should spin on smoothly over the continuous thread of a glass package. They should hold securely under rugged shipping conditions. They should release immediately when tapped lightly on the knurled edge. And they should lend themselves to removal and reseal as often as required, protecting the flavor and efficacy of the product until the last drop has been consumed.

There, we've described the appearance and functions of the Phoenix C T Cap (as if we hadn't intended to do so in the beginning).

Easter bonnets . . . package millinery . . . parades . . . shelves, show windows, counters . . . attractive metal caps . . . Phoenix C T Caps . . . they all lead up to the same thing: *Extra attention and extra consideration!*

PHOENIX METAL CAP CO.

2444 W. Sixteenth St., Chicago 8 3720 Fourteenth Ave., Brooklyn 18

Modern PACKAGING

VOLUME 20

NUMBER 8

APRIL 1947

GENERAL

Packaging Conference report 139
A 16-page special section digesting proceedings at the A.M.A's Philadelphia meeting, with highlights of the Exposition.

Premiums 89
More than ever in this day of self-service selling, the package is the key medium for premium promotion; leading companies are returning to these time-tested sales stimulants.

This month's Cover Package 95

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Florida tests a long-awaited machine that stretch-wraps and seals oranges in Pliofilm.

Reseal can 99
Here at last—for dry foods and drugs—a reclosable metal container with lugged lid, moisture-resistant gasket and inner seal.

Dear Mr. Packager 100
Unexpected consumer reaction can upset marketing plans; scientific opinion sampling is the final safeguard against expensive mistakes in packaging. HOWARD A. TRUMBULL

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An ancient device forms the modern connecting link in an integrated point-of-sale and packaging program for Beatrice Foods' "Meadow Gold" brand. WILLIAM H. EAST, JR.

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Acetate and paperboard make one package do the duty of six for an industrial product.

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Folding Paper Box Assn. picks 1947 winners.

He makes his own 116
Few packagers would find it feasible to fabricate their own set-up boxes, but for this small perfume house it was the only way.

Half a loaf 120
Two halves, separately wrapped, are better than one, say consumers who have tried this bread package, now being reintroduced.

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Detroit Diesel projects its wartime experience in packaging into a merchandising force.

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It solves problems for fast-growing Winthrop companies, using 7,500 different packages.

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Better protection at lower cost is the justification of the package engineering section; here's an example. W. H. WILSON

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Colonial House candies adopt simple doorway design for large and small packages.

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Package testing is a major topic at annual meeting of the paper technical association.

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A new method of testing frozen food packages by passing a controlled current of dried gas through a sealed cell to pick up water vapor from sample. S. W. PIERCE and J. F. HELMS

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1 OUNCE 2 ounce 4 ounce 8 ounce

ALL ON *ONE* REDINGTON

LARGE OR SMALL, you can package all your products on this one, easy-to-operate continuous loading cartoning machine developed by REDINGTON.

Above is shown the new type 23 Redington High Speed continuous loading cartoning machine packaging Jeris 4 and 8 oz. hair tonic bottles, just two of the many products of A. R. Winarick Co., Inc. being cartoned on this Redington model.

Bottles, after they have been filled, capped, and labeled, are discharged directly onto the intake belt of Redington machine. They are gently transferred and lowered into pockets of intake conveyor. A 7″ × 9″ circular is fed from magazine, folded three times and placed over top of bottle from side to side. Carton is fed from magazine, expanded, bottle with circular inserted into carton and carton is closed by tucking in the end flaps.

This machine is equipped with the usual Redington features, including continuous loading mechanism, skip cartoning, turned and ground shafting self-aligning roller bearings and the spot gluing on carton bottom tuck flap to prevent any possibility of bottle dropping through bottom.

Machine is instantly ready for processing new size by simply moving numbered parts to proper marking and can be adjusted to carton packages containing as little as one or two ounces.

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1897 REDINGTON 1947

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EXECUTIVE AND EDITORIAL OFFICES Chanin Bldg., 122 E. 42nd St., New York 17; Tel.—Ashland 4-0655.

CIRCULATION DEPT: 32 Broadway, New York 4; Tel.—WHitehall 4-4782.

BRANCH OFFICES: *Chicago:* 221 N. LaSalle St., Chicago 1, Ill.; Tel.—Randolph 5588. *Cleveland:* 815 Superior Ave., Cleveland 14, O.; Tel.—Superior 0737. *Los Angeles:* 2412 W. 7th St., Los Angeles 5, Calif.; Tel.—Fairfax 2978.

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Member of Audit Bureau of Circulations

INTERNATIONAL STANDARDS

LATE THIS MONTH, nine trade organizations in the frozen foods field—including the Packaging Institute and the Packaging Machinery Manufacturers Institute—will sit down with the American Standards Assn. in New York for preliminary discussions looking toward international standardization of frozen foods packaging.

The New York meeting will be preliminary to a gathering at Geneva, Switzerland, in June under the auspices of the newly formed International Organization for Standardization (ISO), at which the question will be examined from the international standpoint. The project was suggested by Norway and is temporarily under the guidance of the United Nations Standards Coordinating Committee. Sweden, Denmark and France already have signified their intention of participating in the June meeting in Geneva.

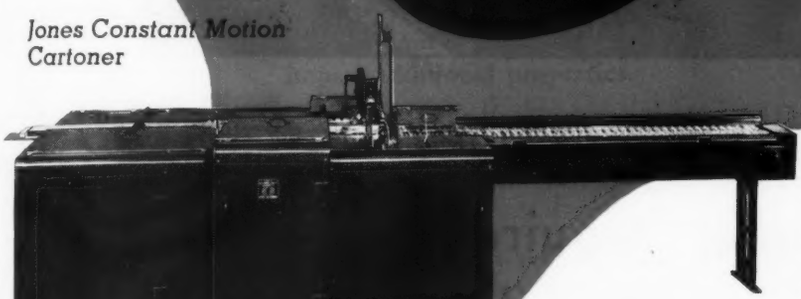
Meanwhile, the National Assn. of Frozen Food Packers already has set its Packaging Committee to work on the problem of packaging standardization. A survey of current practices is under way as a basis for this study. Presumably, this effort can be coordinated with the movement toward international standards—which will of course, if adopted, also set national standards for this country.

The packaging field will welcome any move toward standardization in this field where it has for so long been sorely needed. There is no economic justification for the diversity of sizes and shapes of containers currently being used for frozen foods, although the situation is understandable in view of the rapid growth of the industry under wartime conditions.

There are many other product fields in which standardization of container sizes, nationally or internationally, would be advantageous. Perhaps this broad-scale move in the frozen foods field will set a valuable precept.

The Editors

SAVED... $68.64 per day on cartoning costs!



Jones Constant Motion Cartoner

Converting from a hand-loading line to Jones Constant Motion Cartoning, a prominent manufacturer reports **reducing his cartoning costs from $89.60 to $20.96 per day.**

Now, one Jones Cartoner is used to carton the daily output of 400 gross. The machine feeds and opens the carton, gradually inserts load into the carton, and closes and tucks both carton ends. When required, a speed of 140 packages per minute is used.

The product is cartoned better and faster. Human error is eliminated—empty or defective cartons cannot pass through the machine. Unit loading costs are reduced to an absolute minimum.

Compare Jones Cartoning with **your** present methods. Compare **costs,** too! Write today for complete information, enclosing samples of your product.

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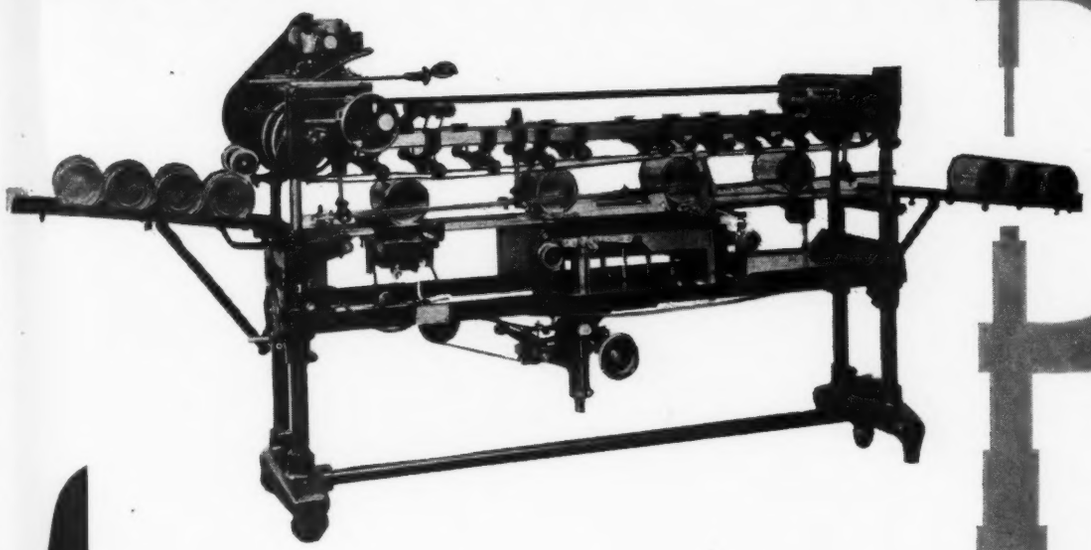
Standard-Knapp Labeler



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Standard-Knapp's engineers design packaging machinery with an eye to sound building—sturdy and precise construction. To make sure that Standard-Knapp machines do not waste power or time in performing their operations, our engineers experiment only on the drawing board. When we build it is with the assurance of knowledge based on long experience.

We are essentially package machinery development engineers. Not only are our standard, proved bag packers, case sealers, labellers and bottle packers well-known in most high production packaging industries, but our flair for innovation in packaging equipment is known and relied on too.

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Efficiency, economy, long life, automatic operation—all add up to Standard-Knapp's design for building.

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DESIGNERS and CREATORS of VISIBLE PACKAGES

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6 Elimination of expensive and unsatisfactory inserts and glued labels	**7** Opportunity for a colorful, selling message

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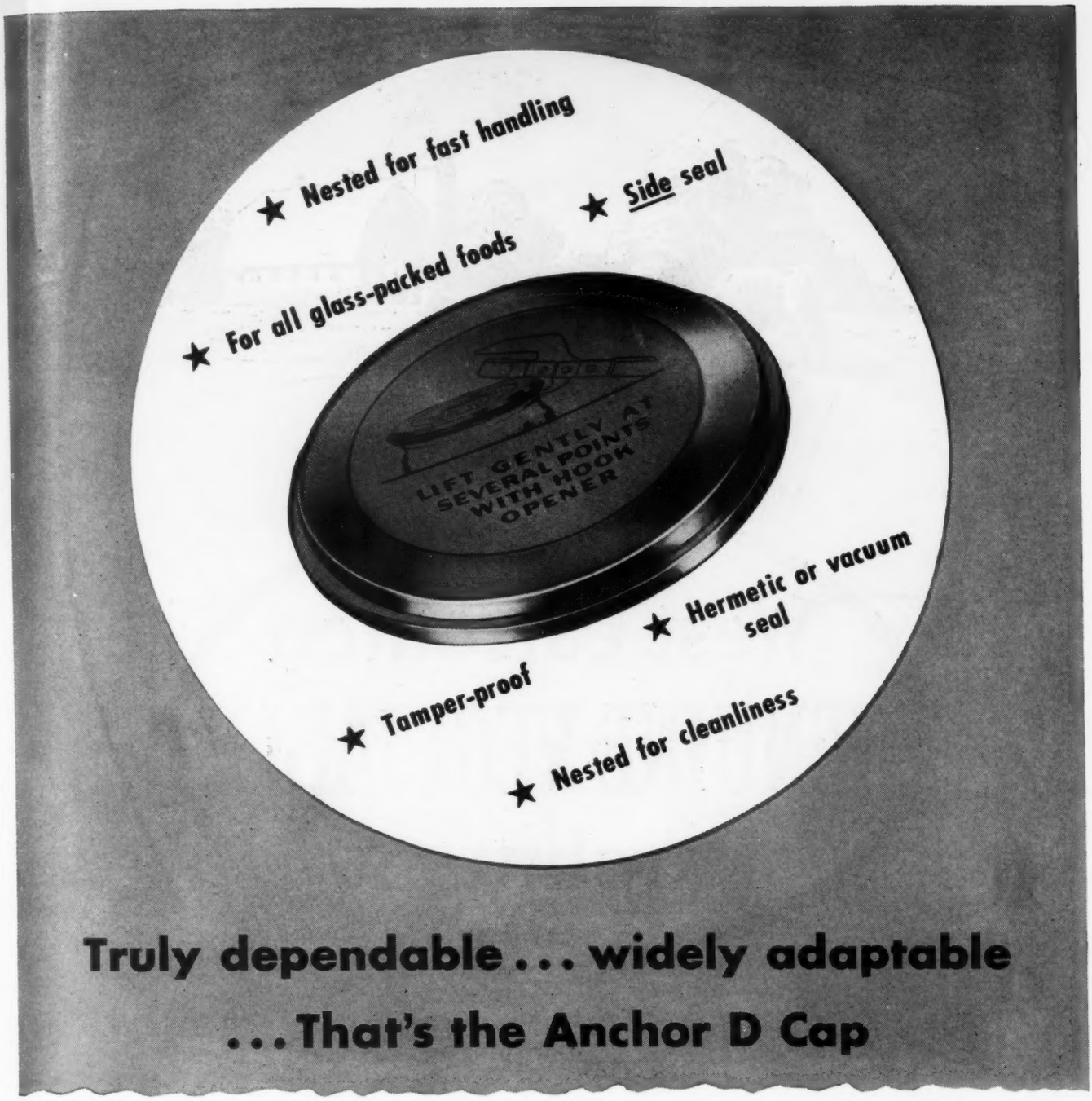
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★ Side seal
★ For all glass-packed foods
LIFT GENTLY AT SEVERAL POINTS WITH HOOK OPENER
★ Hermetic or vacuum seal
★ Tamper-proof
★ Nested for cleanliness

Truly dependable . . . widely adaptable . . . That's the Anchor D Cap

THE Anchor D Cap provides the most dependable, most effective tamper-proof seal available for all kinds of food products packed in tumblers, jars or bottles. It's a mechanical seal made by compressing a resilient gasket firmly into contact with the container finish at a point well below the top edge of the container. This effectively overcomes the top edge imperfections that are common to all glass containers.

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CONTAINERS and CAPS

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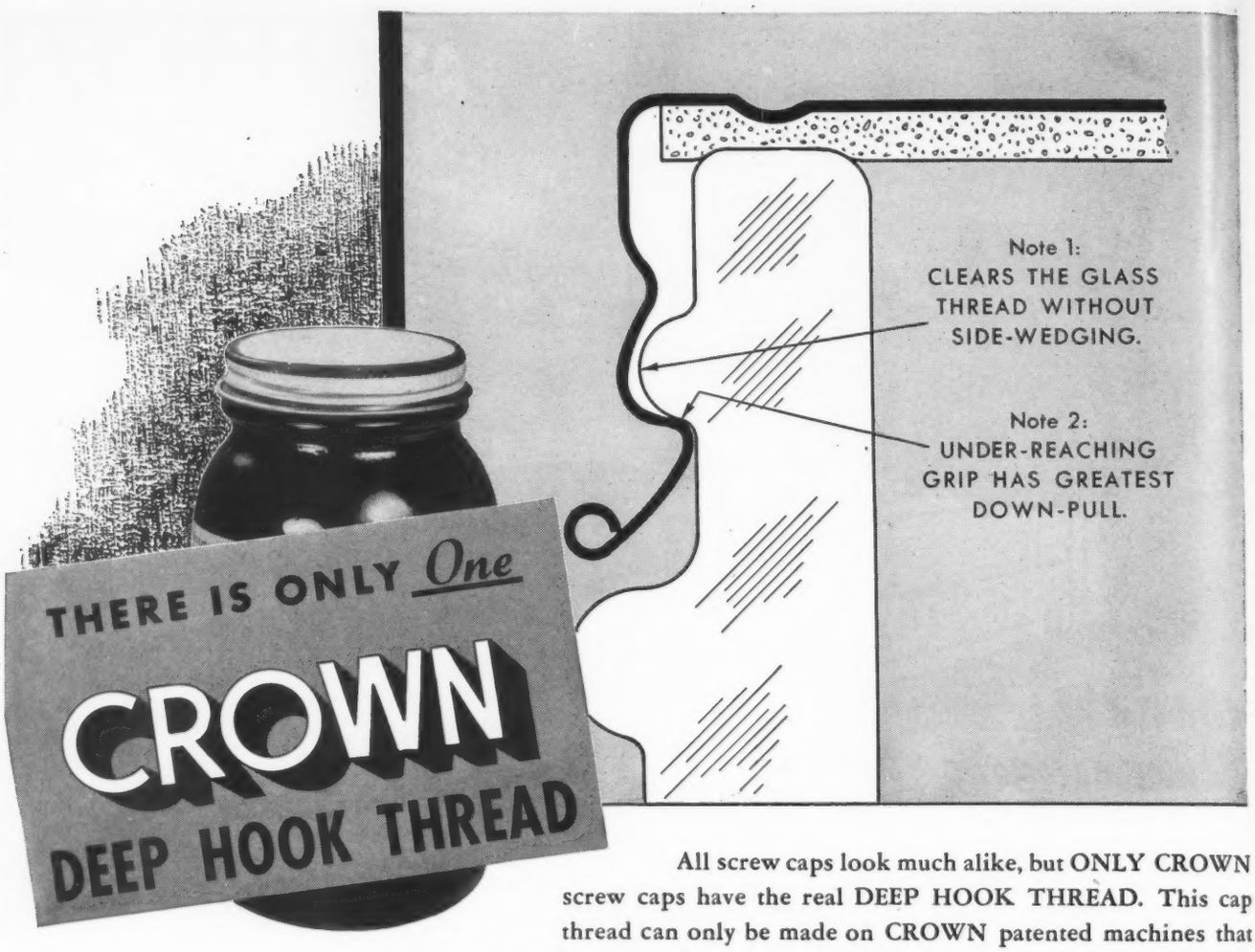

THERE IS ONLY *One* CROWN DEEP HOOK THREAD

All screw caps look much alike, but ONLY CROWN screw caps have the real DEEP HOOK THREAD. This cap thread can only be made on CROWN patented machines that form it. It hooks under the glass container thread without side-scraping or wedging, producing three important advantages.

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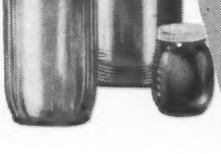
3. EASIER TO REMOVE. Because the DEEP HOOK THREAD eliminates side binding action, Crown Caps do not freeze to the jar. Consumers find them easy to remove.



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WORLD'S LARGEST MAKERS OF METAL CLOSURES

MARK CROSS has a way with men – and DUREZ

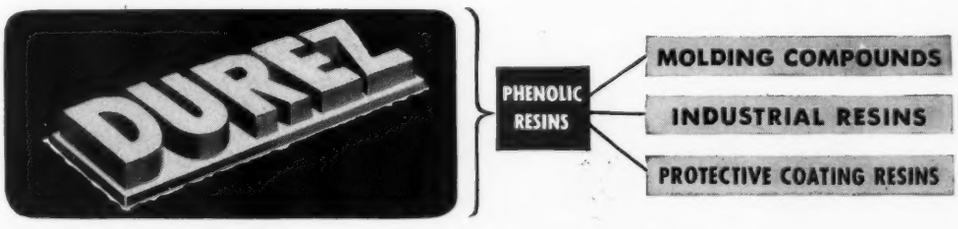
● When Mark Cross decided to introduce the "Cross Country" line of fine toiletries for men, it could be counted on to approach the problem with a thorough knowledge of the customer and the way to please him (and her). Generations have learned to know the name Mark Cross as a symbol of good taste in design as well as of excellent serviceability.

Recognizing the unusual merchandising value of phenolic plastic containers, Mark Cross has packaged an impressive group of products in Durez, molded by Norton Laboratories, Lockport, New York. Four Durez containers are used . . . for talcum, after-shave powder, shaving stick, and shaving bowl. Bottles of simple, round design have private-mold Durez caps, knurled with a masculine grip, as do the after-shave powder and shaving stick containers.

What Durez Offers

Durez phenolic compounds possess an impressive array of the characteristics that count. Eye-appeal, non-bleeding finish, excellent moldability, impact strength, and resistance to moisture, mild acids, and alkalies may all be important in solving your packaging problem. Durez has them all.

Our 26 years of specialized experience with the phenolics are available to you and your custom molder . . . Durez Plastics & Chemicals, Inc., 254 Walck Road, North Tonawanda, N. Y.



PHENOLIC PLASTICS THAT FIT THE JOB

HOW AN ALERT SALESMAN PREVENTED A LEGAL TANGLE

Not so long ago an inside salesman who checks and enters orders for Armstrong's glass containers stopped and stared at a rush order. Then he reached for his phone.

"Bob," he asked the district sales manager, "what about this order for a two-fifths pint flask? Is that a legal size?"

"They assured us it is," the sales manager replied, "for alcoholic liquor other than whisky."

"Well, I dunno," the salesman replied dubiously. "I'm pretty sure a two-fifths pint flask isn't included among the sizes of containers permitted by government regulations. I would like the Legal Department to look into it and make sure."

The Legal Department did—and found no two-fifths pint flask listed. Then they had the Armstrong legal representative in Washington check with the proper official in the Treasury Department.

The flask was illegal. Sizes down to one-sixteenth of a pint were listed, but no two-fifths pint. The customer was notified—the order cancelled—and costly trouble averted. Had the flasks been manufactured, filled, and distributed before the government caught the error, the customer would have been subject to criminal penalties, and his permit could have been revoked.

Fortunately, situations of this kind don't happen often. You can be sure when you buy glass—and closures—from Armstrong's, that every order is handled by competent people who take a personal interest in each order. No matter what problems may arise in handling your order—whether legal, scientific, engineering, or design—you get the finest professional assistance from Armstrong's unusually large and well-staffed service departments.

For full information on any of Armstrong's glass or closures, call your Armstrong representative. Or write direct to Armstrong Cork Co., Glass and Closure Division, 6504 Prince St., Lancaster, Pa.

DECOTONE *Style Setter* BOX WRAP

DRESS UP your box in gay, appealing attire by using one of the DECOTONE Style-Setter BOX WRAPS. The tip-on above is our Gingham pattern in blue—one of the many smart designs in this versatile line. All are available in Blue, Green, Pink, Buff and Gray. Additional colors in plain invite hundreds of pleasing combinations. Let our design department work with you to fashion a distinctive dress to glorify your boxes. Write today!

DECOTONE PRODUCTS

DIVISION

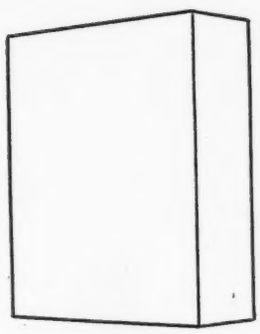
Fitchburg Paper Company

PACKAGING PAPERS *Converted Papers* SPECIALTY PAPERS

FITCHBURG, MASS.

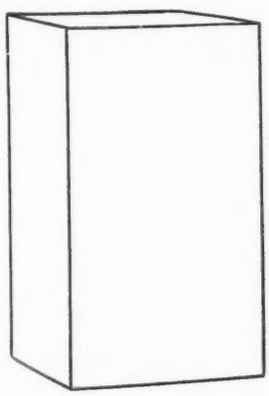
MORE EYES

Whiter. Brighter. Takes inks brilliantly. Coated Lithwite's smooth chalk-free surface takes plate impressions uniformly, brings up colors vividly. Rub-resisting. Fade-resisting. Easier to glue. Performance-proved for 8 years.



S REACH FOR YOUR PRODUCT IN CARTONS OF COATED LITHWITE*

...THE QUALITY CLAY-COATED PAPERBOARD



"Catch-their-eye" quality! That's becoming requirement No. 1 for packages as they face a growing battle for attention on the shelves and counters of today's modern stores. And that's where cartons of *Coated* Lithwite are giving many a mass merchandiser a big advantage. For *Coated* Lithwite is the quality *clay-coated* paperboard that makes brighter, crisper, more "eye-tractive" cartons *practical* for mass producers. Made in one straight-through operation... quality-controlled every step of the way... *Coated* Lithwite has been *performance-proved* for 8 straight years. Production is currently sold up... but why not let us show you, *now*, what *Coated* Lithwite and Gardner-Richardson carton craftsmanship can do to make more eyes reach for *your* product?

A product of THE GARDNER-RICHARDSON CO.

Manufacturers of Folding Cartons and Boxboard, Middletown, Ohio

*Reg.U.S.Pat.Off.

Sales Representatives in Boston, Chicago, Detroit, New York, Philadelphia, Pittsburgh, St. Louis.

FOR

Van Raalte

BECAUSE YOU LOVE NICE THINGS

VARIABLE DESIGNATION

PACKAGE *Marking*

BY MARKEM

ONE PACKAGE — BUT 154 DIFFERENT MARKINGS

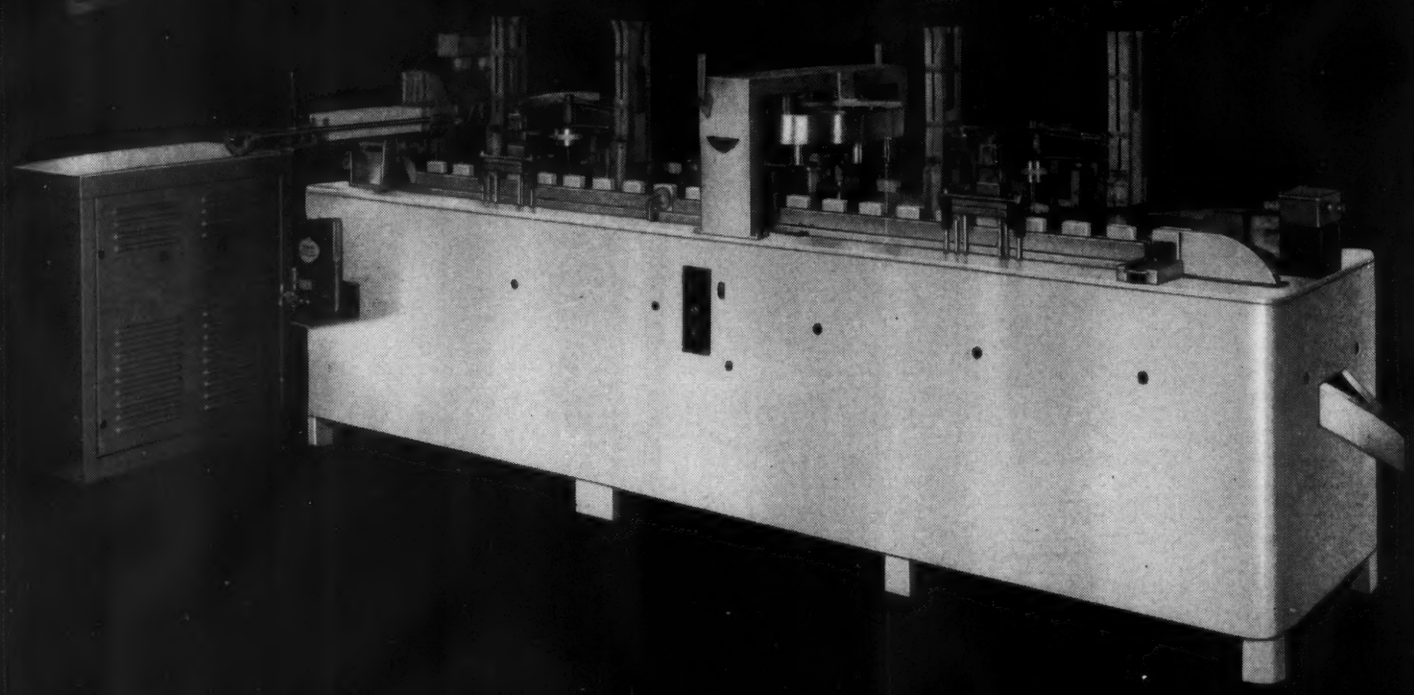
Van Raalte's problem: How to mark its beautiful new stocking box to indicate size and color in 154 different combinations without maintaining vast inventories of pre-printed boxes or labels — and without detracting from the beauty of the box?

MARKEM machines and methods supplied the perfect answer: Now Van Raalte Stocking Boxes are marked quickly *right after packages are filled* — all designations perfectly printed in special instant-drying blue-gray ink exactly matching the effective color-scheme of the box. Changes made in minutes or seconds. No wonder Van Raalte is pleased — as *you* will be!

LET MARKEM solve your problem. MARKEM service includes method, machine and inks to meet your individual requirements of speed, material and purpose, whether in marking boxes, bottles, labels, or the product itself. Tell us your needs; we'll do the rest.

MARKEM
MACHINE
COMPANY
KEENE, N. H.

SIFTPROOF Packages Filled and Sealed per Minute



PALMER
CHICAGO

This fully automatic Palmer machine forms, fills and seals siftproof single unit containers at the rate of 100 per minute.

Developed by Palmer, this carton is positively *siftproof*, and is particularly suited to the packing of any substance which presents a sifting problem. Its simple, three piece construction permits a significant saving in materials. The end blanks are welded to the sidewalls to form a strong, tight closure.

This Palmer machine is so engineered as to be easily adapted to almost any shape or size of carton. Demonstrations of this new Palmer development can be made at your convenience.

Frank D. Palmer, Inc., Chicago 12
528 North Western Avenue

Near Crisis at Oxford Paper Company by Tony Barlow

DISASTER DANGLES! A DAY'S PRODUCTION OF OXFORD PAPER ALMOST GOES THROUGH WITH ONLY 4,999 QUALITY INSPECTIONS INSTEAD OF THE USUAL 5,000 PER DAY.

THE uniform high quality of Oxford Papers isn't just happy coincidence. It results from setting unusually high quality standards and adhering to them.

On an average day some 5,000 laboratory and production tests are made of the output in addition to the Oxford Research Department's constant search for ways to make paper better.

This continuous checking supplements the inbred skills of veteran craftsmen, scores of whom have spent over 20 years making Oxford Papers. Many families boast three generations at the plant.

Another important factor in Oxford quality is the completeness of its operations. To begin with, it has vast resources of good pulpwood on which to draw. Then the mill manufactures pulp — performs every paper-making operation from start to finish, with direct quality control every step of the way.

And added to this are Oxford's many years of experience making over 1,000 miles of quality paper a day. So plan with Oxford Papers! Paper merchants in 48 key cities distribute them.

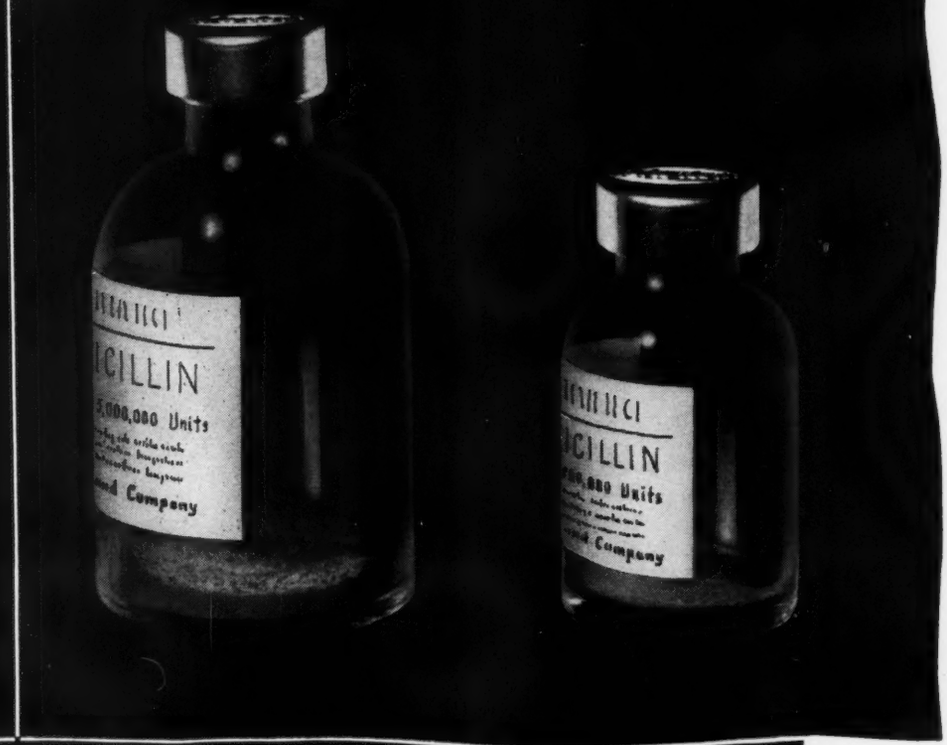
Included in Oxford's line of quality printing and label papers are: ENAMEL-COATED — Polar Superfine, Maineflex, Maineflex C1S Litho, Mainefold and White Seal; UNCOATED — Engravatone, Carfax, Aquaset Offset, Duplex Label and Oxford Super, English Finish and Antique.

OXFORD PAPER COMPANY

230 PARK AVENUE, NEW YORK 17, N. Y.

MILLS at Rumford, Maine and West Carrollton, Ohio — *WESTERN SALES OFFICE: 35 East Wacker Drive, Chicago 1, Ill.* — *DISTRIBUTORS in 48 Key Cities*

KIMBLE NEUTRAGLAS CONTAINERS
to Meet Current Developments . . .



Several years ago, Kimble developed a Neutraglas container with aluminum seal cap to carry the accepted quantity of Penicillin. When a container for a larger quantity was called for, producers found that Kimble was ready with the correct size of Neutraglas container to meet the newer demands.

Standardize NOW *on Kimble Ampuls, Serum Vials, Serum Bottles and Clinical Glass containers of* NEUTRAGLAS.

K
KIMBLE GLASS

The Visible Guarantee of Invisible Quality

KIMBLE GLASS COMPANY
DIVISION OF OWENS-ILLINOIS GLASS COMPANY
VINELAND, NEW JERSEY

There is nothing
quite so fine

WEDGWOOD CHINA

ALUMINUM FOIL

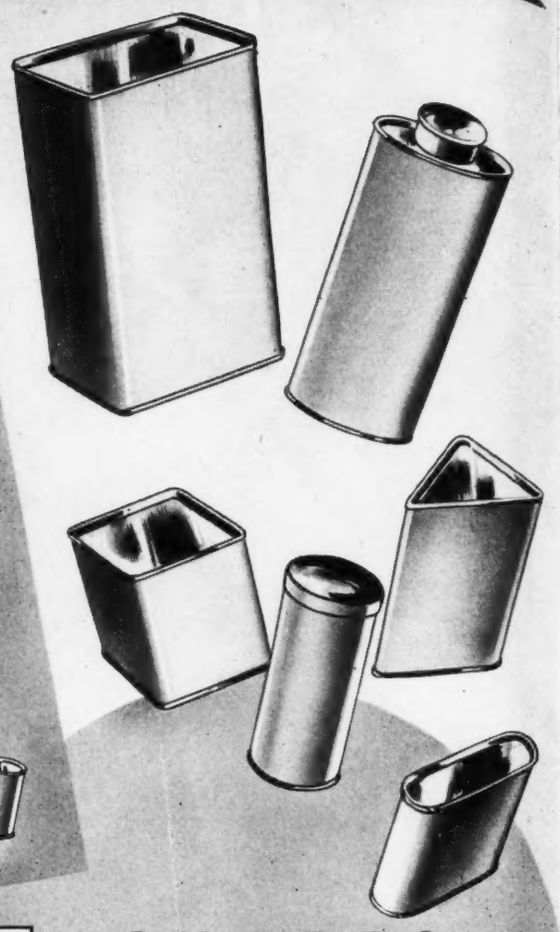
The unusual advantages of a foil made by entirely new machines and processes of basic, revolutionary design and conception are evidenced by the enthusiasm of users.

COCHRAN FOIL COMPANY, INCORPORATED · cofco · LOUISVILLE 10 · KENTUCKY · U.S.A.

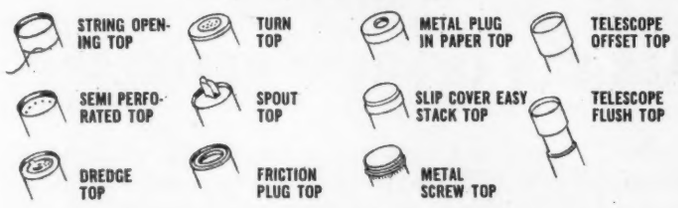
COCHRAN FOIL COMPANY, INC., LOUISVILLE 10, KENTUCKY

Sefton IS TOOLED FOR THE JOB!

SIZES
There's a size for every need and product, from wee containers to huge fibre cans!
SQUARE 5"
SQUARE 1 7/8"
ROUND 7 1/8"
OBLONG 5 x 7"
OBLONG 1 5/16 x 1 3/32"
ROUND 1"



TYPES



SHAPES

A shape to fit your product, including round, square, oblong, triangular, obround and oval.

No matter what your packaging problem ...no matter what your job...Sefton Fibre Can Company is equipped and ready to do it for you! If it's a tiny can you want...or a mammoth one...in any conceivable shape, Sefton will make it for you! They'll add just the type top you need, too, to suit the needs of your product. See Sefton to solve your packaging problems!

Sefton FIBRE CAN COMPANY

ST. LOUIS . . . . . NEW ORLEANS

DISTRICT OFFICES: • Los Angeles • San Francisco • Denver • Tampa • Chicago • Des Moines • New Orleans • Boston • Detroit • Kansas City • St. Paul Omaha • New York • Cincinnatti • Cleveland • Oklahoma City • Pittsburgh • Memphis • Nashville • Dallas • Houston • Salt Lake City • Seattle

"AN IMPROVED PACKAGE CAN IMPROVE BUSINESS!"

MR. CELLOPHANE

SYLVANIA CELLOPHANE is a natural for distinctive design. Take for example this unusual "Hi-Hat" package for candy. The inexpensive cardboard cut-out surmounts the printed cellophane bag. The result is maximum visibility plus immediate sales appeal for children from two to eighty-two!

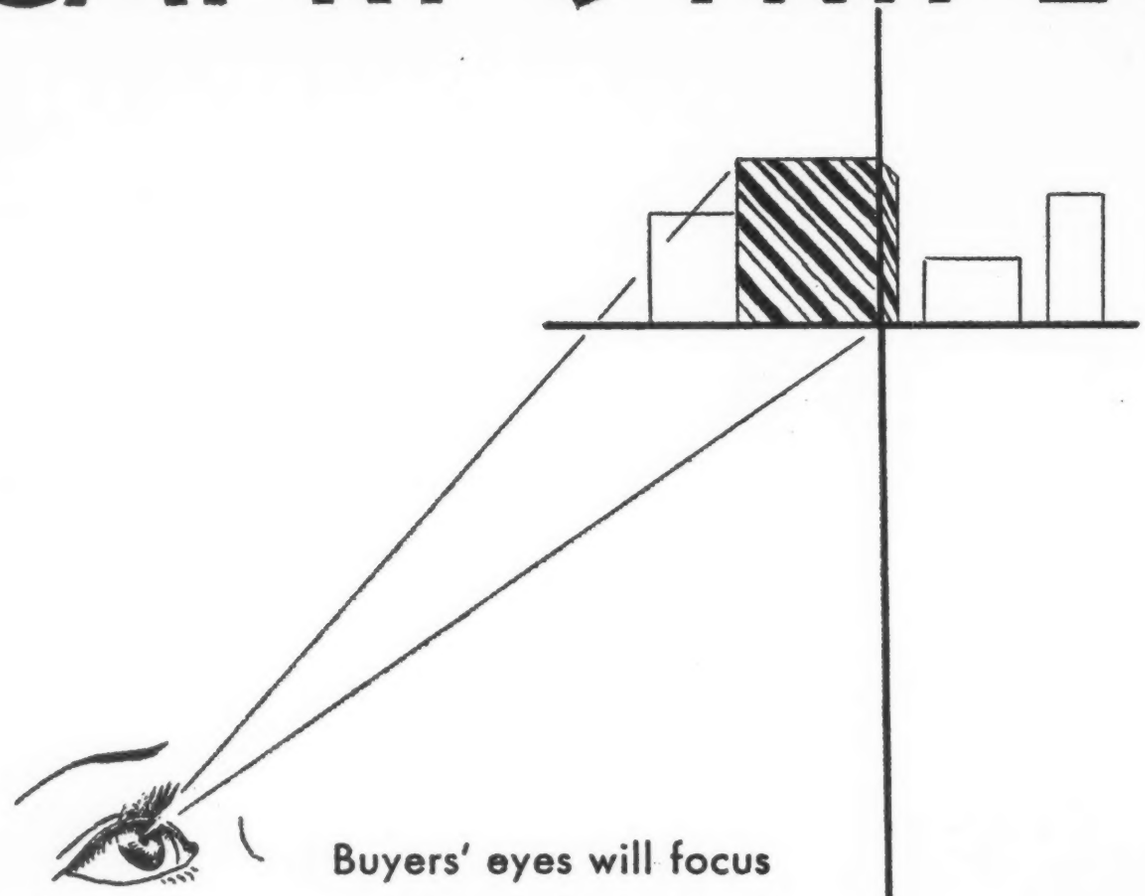
Sylvania Cellophane has all the qualities needed to keep confectionery clean and sanitary. Every step in its manufacture is constantly checked. This control assures not only uniform transparency and a high degree of strength, but also provides a wrapper that won't stick to the contents—so important in packaging candy.

SYLVANIA CELLOPHANE

SYLVANIA CELLOPHANE ®

Made only by **SYLVANIA DIVISION**
AMERICAN VISCOSE CORPORATION
Manufacturers of cellophane and other cellulose products since 1929
General Sales Office: 122 E. 42nd Street, New York 17, N. Y. *Plant:* Fredericksburg, Va.

CAPRI STRIPES

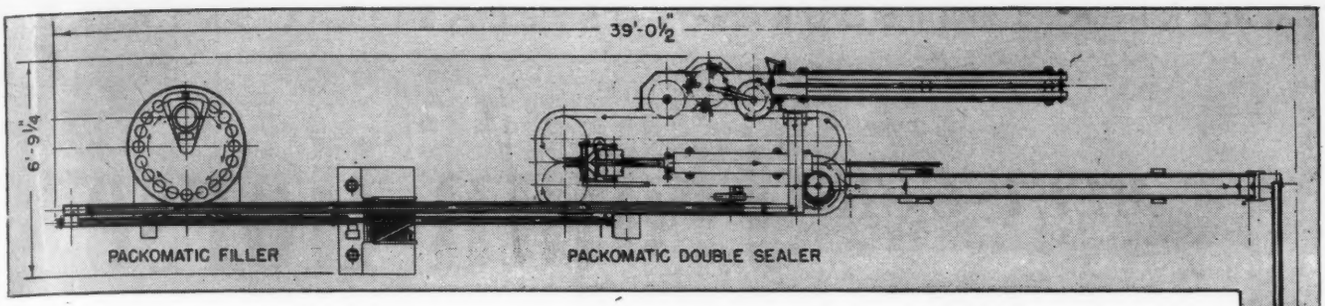


Buyers' eyes will focus
on your product when it
is packaged in
CAPRI STRIPES

A NEW PAPER

by
HAZEN

HAZEN PAPER COMPANY
HOLYOKE · MASSACHUSETTS



NOW . . A PRODUCTION LINE FOR PACKAGING PRE-FROZEN FOODS *AUTOMATICALLY*

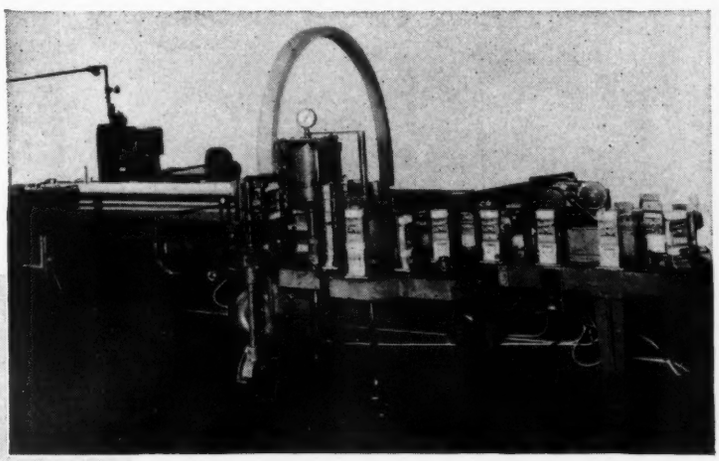
OUT of more than a quarter of a century of helping packaged product processors to speed their wares to market faster, easier and more economically—J. L. Ferguson Company now helps the Frozen Food industry to take a major step toward mechanization of its operations.

Savings of upwards to $3.50 per 1000 packages are forecast for PACKOMATIC's recently perfected line for the packaging in glue-end cartons of pre-frozen peas, beans, cut fruits and vegetables.

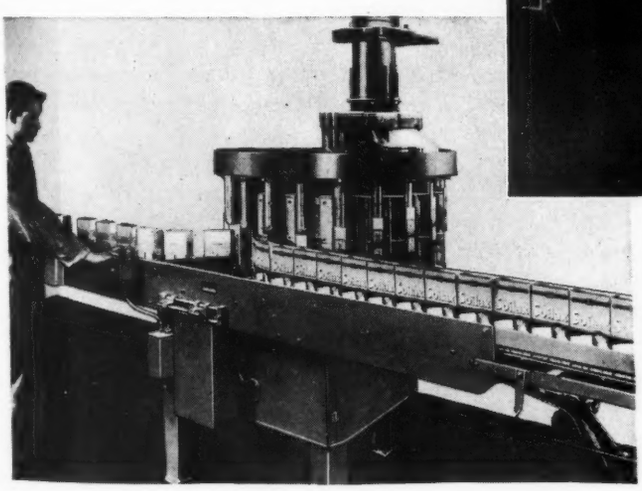
Equipment necessary to the automatic *line-handling* of pre-frozen foods combines a conveyor-linked adaptation of performance-proved PACKOMATIC *automatic* Carton Formers & Feeders, PACKOMATIC *automatic* Volumetric Fillers, PACKOMATIC *automatic* Top & Bottom Carton Gluers & Sealers, and PACKOMATIC *automatic* Loader & Side Sealer with any standard carton wrapping unit.

Result is a simple, efficient, low-cost, low-maintenance line operation that is a time-saver, a labor-saver—a *money maker.*

For detailed information, consult your classified directory for PACKOMATIC's nearest regional office, or write Joliet. J. L. Ferguson Company, Troy & Republic Streets, Joliet, Illinois.



PACKOMATIC Top & Bottom Carton Gluer & Sealer with *automatic* Carton Feed as used with PACKOMATIC Carton Filler, Case Loader, Side-Sealer and any standard carton wrapping machine, for line packaging of pre-frozen foods in Glue-End Cartons.



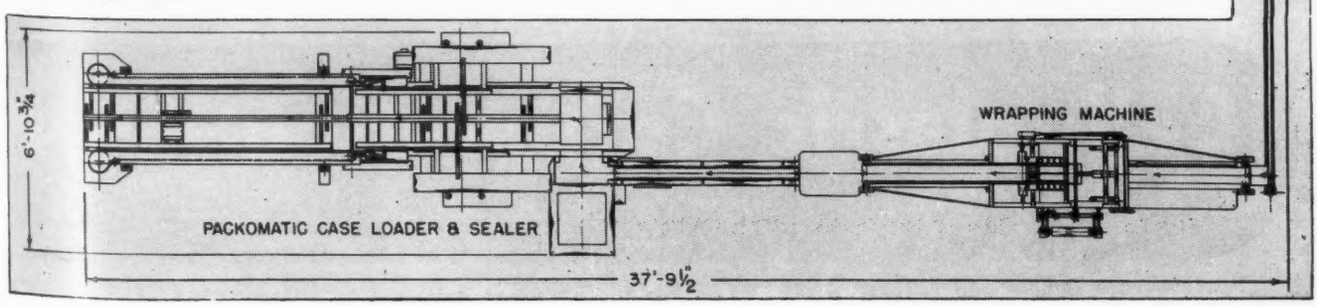
PACKOMATIC Volumetric Carton Filling unit for *automatic* filling of Glue-End Cartons with pre-frozen peas, beans, cut fruits & vegetables.

PACKOMATIC

PACKAGING MACHINERY J. L. FERGUSON CO. JOLIET, ILL.

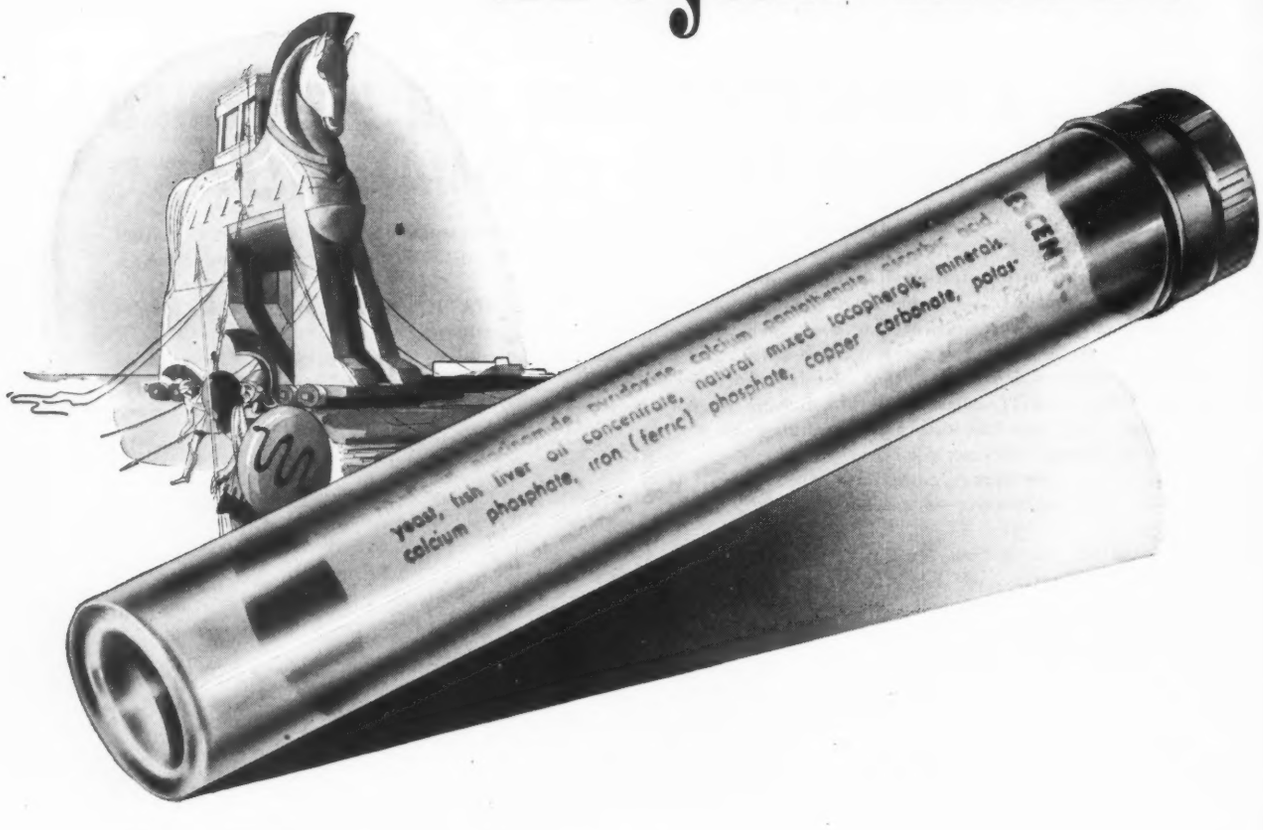
Chicago • New York • Boston • Philadelphia • Baltimore
Cleveland • Denver • San Francisco • Los Angeles
Seattle • Portland • Tampa • Dallas • New Orleans

WEST COAST REPRESENTATIVE: Peter D. Bowley & Associates, 210 Mississippi St., San Francisco 10, California.



AMERICA'S #1 SOURCE FOR PLASTIC CONTAINERS

MEET OUR Trojan Horse


yeast, fish liver oil concentrate, natural mixed tocopherols, minerals,
calcium phosphate, iron (ferric) phosphate, copper carbonate, potas-

We invite you to send us a sample of what you make—or tell us what you *intend* to make • And we warn you that the container we suggest for it will be a Trojan horse—with this one important difference: *once you invite a Celluplastic package into your business, you will never want to let go of it.*

We make this bid with confidence, knowing that the vast know-how we have developed since 1919 • the completeness and efficiency of our facilities (many processes are exclusively ours) • the variety of plastics we work with • permit us to do every job *right.*

Celluplastic Corporation

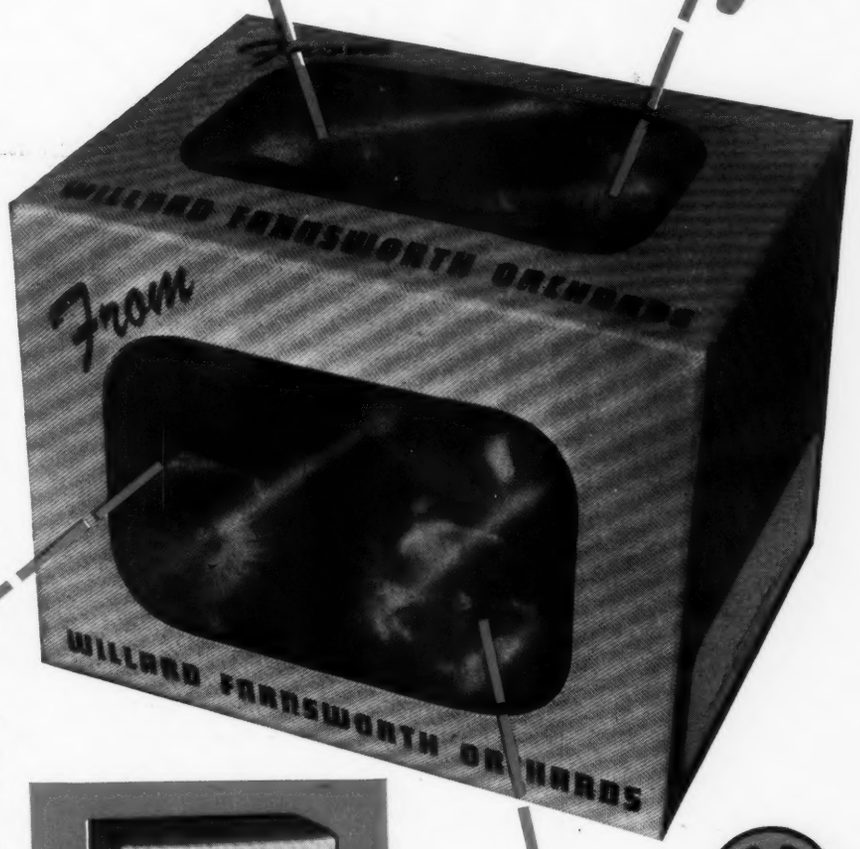
46 AVENUE L, NEWARK 5, N. J.

PLASTIC CONTAINERS and PLASTIC PRODUCTS

New York Office: 630 Fifth Ave. • West Coast: Container Service Co., Los Angeles 27, Cal.

More apple sales in SIGHT!

Planned Packaging develops a new cross-lighted carton for brighter eye-appeal in packaged fruit

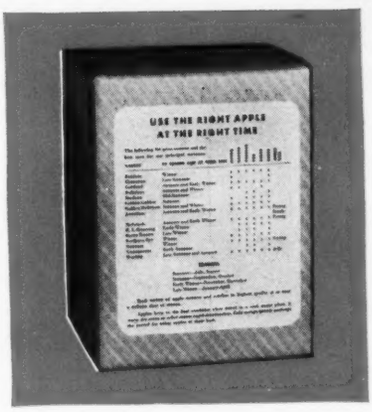


An apple's complexion has a lot of influence with apple buyers. The right-angle cross-lighting in this new apple carton gives every apple a chance to use its sales allure to best advantage in the self-service market.

The windows have to be tough so the stems won't punch through. That's why our research and development department used Pliofilm. It is glued to the carton board by a special new high-speed process which we adapted.

This carton meets the long-felt need for a visible-type fruit package which can be closed and locked by hand after semi-automatic filling. Double thickness at each end makes it strong and rigid to hold its 4 pounds of apples securely when carried home.

It is a good example of PLANNED PACKAGING — research and development, design, testing, board making, and conversion all working together to meet the special requirements of the product and its merchandising conditions with maximum precision and economy.



Apple Facts

The back of this apple carton has been used to give buyers useful information on popular varieties of apples, when and how they should be used.

THE OHIO BOXBOARD CO.

RITTMAN, OHIO

Manufacturers of paper board, folding boxes, corrugated and fiber shipping containers, and converted specialties

SALES OFFICES: RITTMAN • AKRON • CLEVELAND • CINCINNATI • PITTSBURGH • NEW YORK • CHICAGO

Capacity 500 tons daily

Craftsmanship

NOBLE

ESTABLISHED 1876

Manufacturers of

JEWELERS' FINDINGS AND SOLDERS

PRESENTATION BOXES

TROPHIES • MEDALS • BALL CHARMS

F. H. NOBLE & COMPANY 559 West 59th Street Chicago 21, Illinois

LUMARITH*

Transparent PACKAGING FILM

SALESMAKER IN THE FOOD INDUSTRY

The self-service market is the proving ground for packaging. Here the eye does the buying, and the eye-attracting package is a salesmaker.

The secret of good packaging for this market is visibility—with Lumarith* transparent film. Lumarith pioneered the transparent package—has a long record of successful packaging applications which include: window boxes, bags and envelopes . . . transparent bags, wraps and rigid containers.

Plan—with Lumarith—for the best kind of protection and promotion for grocery items of all descriptions: Lumarith is crystal clear; does not stretch or wrinkle; has a perfect surface for printing; has excellent dimensional stability. Check these qualities against your packaging requirements . . . check, too, with the Transparent Films Department for specific information on your particular packaging needs. Plastics Division, Celanese Corporation of America, 180 Madison Avenue, New York 16, N. Y.

*** Reg. U. S. Pat. Off.**
† Trademark

*Celanese** *Plastics*

LUMARITH* FORTICEL* CELCON† CELLULOID* VIMLITE*

The shortest path to sales is through the customer's eyes. When Mrs. Consumer is in the dealer's store, get her attention with your carton or label. Have it tell her what she'd like to know about your product. She'll be in the mood to want to try it for her family.

But your competitors will be right there, making their strong bids for her interest at the same time!

You'll want your packaging to have the edge on theirs in appearance value and dynamic sales effectiveness. And that is where Rossotti can help you most.

When we're assigned to your packaging job, the first thing we do is turn loose a staff of skilled merchandising research men. They make a thorough study of your market and what influences sales in that market. Then our creative designers examine what your competitors are doing and aim for powerful distinction in the over-all aspects of your design. After that, they add whatever product features there are that will make your brand outstanding in customer appeal—foolproof directions, inviting recipes, health advantages, vitamin and essential mineral content information and other sales stimulants.

And our fully equipped plants on both East and West Coasts—with our own dependable sources of raw material supply—are your assurance of prompt, quality production and speedy delivery.

Today is seeing the start of a new era in business competition, with every sales tool having a vital job to do. If your labels or packages are lagging behind or barely keeping up with this trend, now is the time to modernize. Rossotti engineers invite consultation on your packaging problems. Just write, wire or 'phone the branch nearest you.

Rossotti
SINCE 1898

ROSSOTTI LITHOGRAPHING CO., INC. • NORTH BERGEN, N. J.

BOSTON 9, Mass.: 200 Milk Street • ROCHESTER 5, N. Y.: 72 Somershire Drive
JACKSONVILLE 9, Fla.: 6503 Sapphire Drive • CHICAGO 11, Ill.: 520 N. Michigan Ave.
WEST COAST PLANT: 5700 Third Street, San Francisco 24, Cal.

when shoppers become buyers . . .

a MARVELLUM paper makes the sale . . .

A casual woman shopper becomes a satisfied buyer when her eye is attracted towards a colorful package.

The rich appealing colors, new outstanding patterns and beautiful finishes of Marvellum's *Papers Distinctive* are designed to favorably attract shoppers' eyes toward that which pleases them most and to supply the eye-appeal manufacturers are looking for to enhance their product.

That is why Marvellum leads the field in packaging papers. Prove this to yourself. Use Marvellum *Papers Distinctive* for your packaging and be assured that shoppers will become buyers of YOUR product.

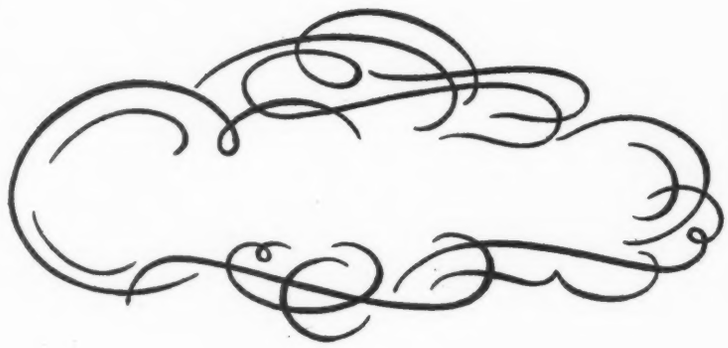
Send for this catalog if you haven't already received your copy.

THE MARVELLUM COMPANY

• *Papers Distinctive* •

HOLYOKE
MASSACHUSETTS

Coming Soon!



A NEW NAME
A NEW SERVICE

• In Fine Gift Packaging

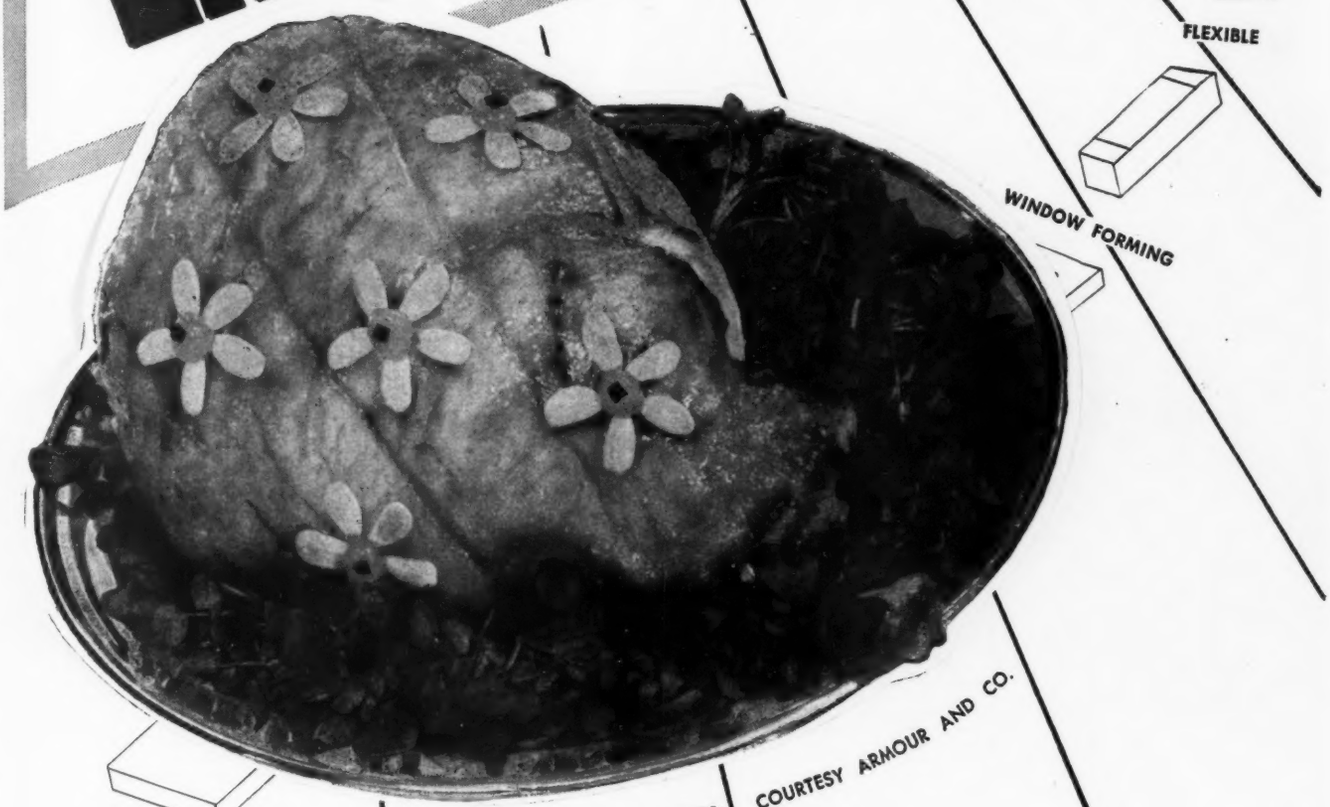
Durable Beautiful
Re-use Containers
That Are Gifts In
Themselves

IN

PLASTICS–PAPERBOARD–METAL

PRESERVES . . . BEAUTIFIES . . . PROTECTS . . .

LAMCOTE



TRANSPARENT

TOUGH

FLEXIBLE

WINDOW FORMING

ENRICHING

GLAMOROUS

SOIL-AND WEAR-RESISTING

COLOR PHOTO COURTESY ARMOUR AND CO.

Get acquainted with Lamcote's versatility . . .

This transparent, flexible protection enriches your finest printing . . . widens its uses by resistance to wear, soil and moisture. Use it on your folding boxes with or without apertures. Use it on your box wraps and labels. Use it on your menus, brochures, catalog covers, displays, etc.

Our design engineers will create a LAMCOTE selling-package for you. No charge or obligation. Write today!

ARVEY CORPORATION

3460 N. KIMBALL AVENUE • CHICAGO 18 • 303 COMMUNIPAW AVENUE • JERSEY CITY 4

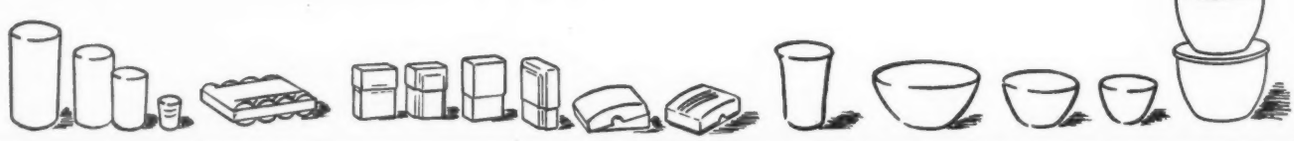
TUPPER

Package with Tupper Millionaire Line

WONDER-BOWLS

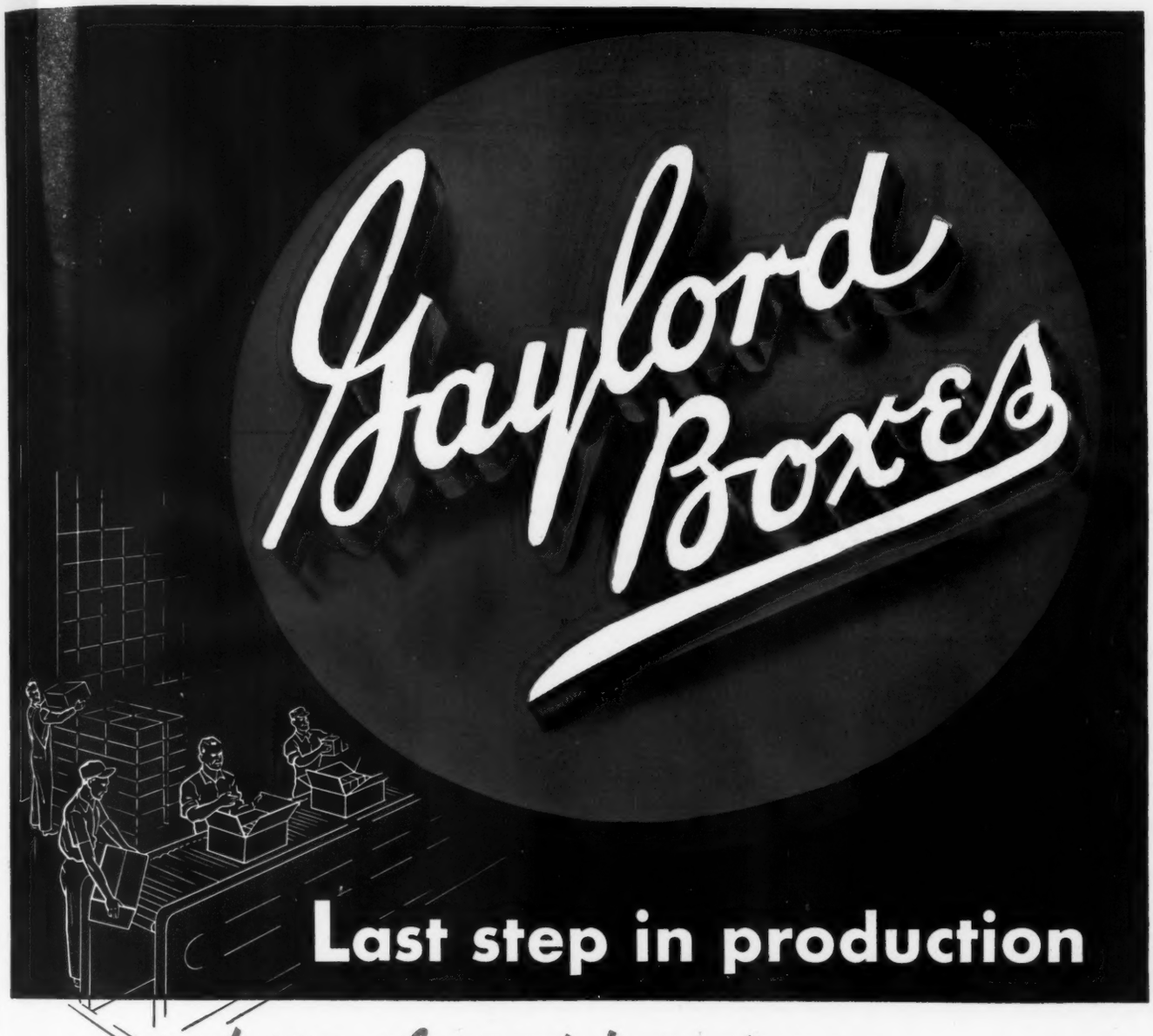
AHEAD OF THE TIMES IN THE PACKAGING PARADE

For packaging all kinds of foods, nuts, candy, vegetables, and for many other items, these featherweight, breakproof Tupper Millionaire Line Wonder-Bowls are years ahead of time. Moulded in genuine Tupper Poly-T, the new plastic of the future, they are colorful and attractive at point of sale and quick favorites for scores ot uses in the kitchen, on the dinner table, for parties or picnics, for refrigerator or freezing unit. Wonder--Bowls are flexible, tasteless and non toxic. You can squeeze up the edges and pour from them in pitcher style. This packaging container of tomorrow is yours today, made to your specifications, if you like.



TUPPER PLASTICS, INC., Farnumsville, Mass.

New York City Office: 225 Fifth Ave. • Can. Address: Hindavid, Reg., 116 St. Paul St. W., Montreal, P. Q.



—and one of great importance

- Corrugated and Solid Fibre Boxes
- Folding Cartons
- Kraft Grocery Bags and Sacks
- Kraft Paper and Specialties

Standard of the Packaging Industry

As your finished product rolls off the production line it represents all of your skill and knowledge of precision manufacturing.

Gaylord Balanced Design gives you containers of ample, dependable strength to effect delivery in factory-perfect condition.

GAYLORD CONTAINER CORPORATION, General Offices: SAINT LOUIS

New York • Chicago • San Francisco • Atlanta • New Orleans • Jersey City • Seattle
Indianapolis • Houston • Los Angeles • Oakland • Minneapolis • Detroit • Jacksonville
Columbus • Fort Worth • Tampa • Cincinnati • Dallas • Des Moines • Oklahoma City
Greenville • Portland • St. Louis • San Antonio • Memphis • Kansas City • Bogalusa
Milwaukee • Chattanooga • Weslaco • New Haven • Appleton • Hickory • Greensboro • Sumter

127

HEEKIN COLORS

on

METAL CONTAINERS THAT STAY *PUT*

HEEKIN CANS

With Harmonized Colors

THE HEEKIN CAN COMPANY, CINCINNATI, O.

MANUFACTURER OF LITHOGRAPHED CANS SINCE 1901

New Weight Controller Cuts Packaging "GIVE-AWAY" TO ABSOLUTE MINIMUM

Placed in the package conveyor line, the Weightrol provides a continuous, automatic control of package filling machine at speeds up to 120 per minute. Its infallible accuracy is unaffected by human fatigue, inattention or carelessness. Delivery of underweight packages can be entirely eliminated and overweights can be reduced to the absolute minimum permitted by the accuracy of the filling machinery. (Usually give-away can be cut to a fraction of the best performance attainable by spot checking with scales).

FG-4

This high-speed, automatic weight checking and selecting machine can be used either for checking the operation of human and machine fillers or for sorting packages and objects into different weight groups.

Send for literature.

The FRED GOAT CO., Inc.

ESTABLISHED 1893
314 DEAN STREET • BROOKLYN 17, N. Y.

GET MERCHAND(W)ISE! **Shoppers demand and the merchant knows that quality is back to stay. Your topnotch product will be assessed largely by the way it's dressed. Box wraps by Bobby—colorful—gay—assure you of "out front" display. For more merchand(w)ise suggestions call Bobby any day. He'll shed that apron, grab his bag and dash right out your way.**

FOR CLARITY, COLOR AND CONSISTENT QUALITY

HAYNES LITHOGRAPH COMPANY, INC.

1140 East-West Highway **Silver Spring, Maryland**

NEW YORK OFFICE, 424 Madison Ave., Plaza 8-2740 • *ATLANTA OFFICE, 501 Hass-Howell Bldg., Cypress 4273*

BALTIMORE OFFICE, 1605 Court Square Bldg., Plaza 6074

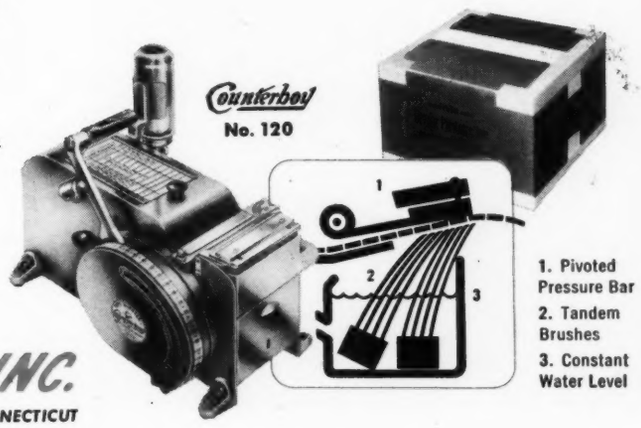
your packaging problem isn't solved until your shipping container is properly sealed

beware of the "OLD SOAK"

"The Old Soak"
PACKAGE ENEMY NO. 3
Tape much too wet!

AUTOMATIC MOISTENING CONTROL, patented Counterboy feature, prevents tape flooding—excessive glue dilution which leads to a weak seal! AMC assures correct moistening *every time*. The pivoted pressure bar can be pre-set for your type of tape. Because it's *pivoted*, it automatically maintains a steady, edge-to-edge contact between tape and tandem brushes. Keep "the Old Soak" from endangering your shipments! You're always sure of fast, safe sealing with Counterboy AMC because correct "moistening judgment" is built right into your machine!

Write today for your copy of helpful new brochure, *"Better Shipment Sealing for Product Protection."*



1. Pivoted Pressure Bar
2. Tandem Brushes
3. Constant Water Level

Better Packages, INC.
WORLD'S LARGEST MANUFACTURERS OF TAPE DISPENSERS SHELTON, CONNECTICUT

out of your dreams

Glorifying your product—enhancing its appeal, is simply doing what comes naturally to Feder Industries. Decorative Packaging calls for specialized thinking—for unique ideas and for the kind of detailed craftsmanship at which Feder is tops.

The same skill and imagination that turn out masterpieces of packaging beauty for big names in the cosmetic industry are at your service.

Complete presentations. Your caterers for boxes of every description, sachets, puffs, kits, bows, displays and all the unusual luxurious decorations that make your package stand out—a package that is strikingly different—that SELLS—that is admired and remembered.

Suppliers of fabrics—ribbons—flowers.

Feder Industries will do the unusual for your product.

FEDER INDUSTRIES, Inc.

116 WEST 48th STREET • NEW YORK 19, N. Y.
Circle 5-5447, 5448

Valenciennes Lace . . . Kupfer's exclusive distinctively feminine foil paper adds that ever-so dainty touch that appeals universally to all women. Embossed in plain, gold, silver or color combinations, this paper is most effective for candy, cosmetic, and accessory box coverings.

Numerous other Kupfer papers such as foil and metallic papers, lace patterns, leather simulations, floral prints, trade-marked papers and over 5000 other papers are available to make your package outstanding on shelf and counter.

WRITE FOR SAMPLES TODAY.

COLOR SELLS

KUPFER BROS. CO.
4 ASTOR PL., NEW YORK 3, N.Y.

Manufacturers of Surface Coated Papers Since 1845

BROS. PAPER CO.
est Hubbard Street
10
Illinois

Southwest Representatives:
MODERN PACKAGINGS
Irwin-Keasler Building
Dallas 1, Texas

FRYE-NEWMARK Paper Co.
1328 Sante Fe Avenue
Los Angeles 21
California

Branches in:
BOSTON
PHILADELPHIA
SEATTLE

the Packaging that attracts

Fresh, sparkling ideas . . . supported by an ability to follow them thru. Ace Carton Corporation, ever mindful of modern merchandising trends, apply these ideas to folding paper cartons in a sane and successful manner.

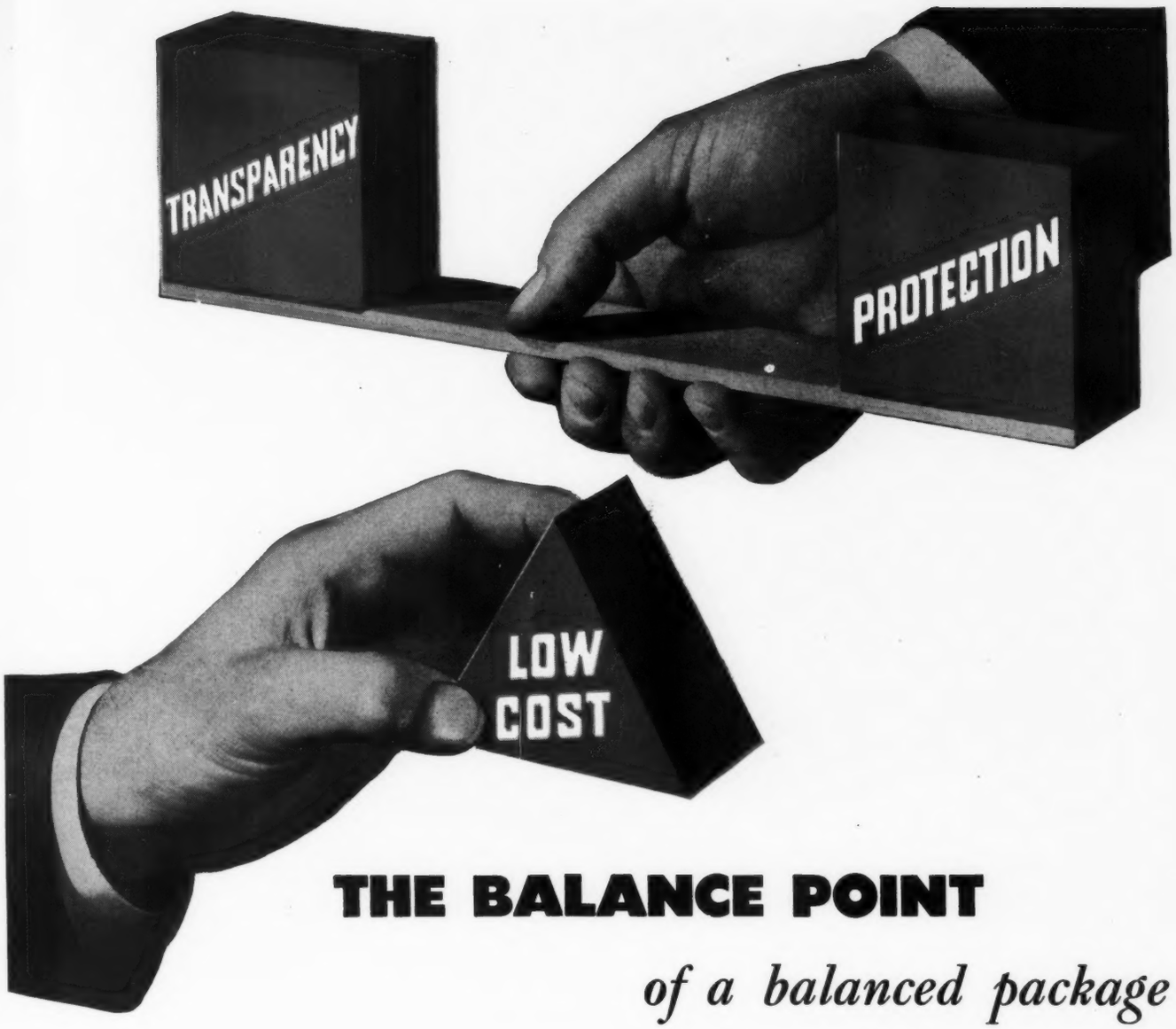
The packaging that *attracts* is the packaging that *sells!*

ACE CHICAGO Creators

ACE CARTON CORPORATION

FOLDING PAPER BOXES • FOLDING DISPLAY CONTAINERS

5800 WEST 51ST STREET, CHICAGO 38, ILL. • TELEPHONE CRAWFORD 0111



THE BALANCE POINT

of a balanced package

ECONOMY is an important factor in an effective package. You get true packaging economy with Du Pont Cellophane . . . sales-building transparency to make your product its own best salesman plus chemically tailored protection of product quality—at low cost. It's the combination of these important advantages that makes Du Pont Cellophane the balanced packaging material.

We hope the day will soon come when converters and ourselves can meet all demands for Cellophane. In the meantime, let us work with you on your future packaging plans. E. I. du Pont de Nemours & Co. (Inc.), Cellophane Division, Wilmington 98, Delaware.

YOU STRIKE THE RIGHT BALANCE WITH

DU PONT

REG. U. S. PAT. OFF.

Cellophane

Shows what it Protects—at Low Cost

BETTER THINGS FOR BETTER LIVING
...THROUGH CHEMISTRY

Carr-Lowrey can supply them in most any style you might desire . . . exquisite hand blown creations or machine made models of distinctive design. In either case Carr-Lowrey's skill and experience gained through working closely with the cosmetic industry for over 57 years is your guarantee of superb quality and craftsmanship . . . the finest in commercial glass containers.

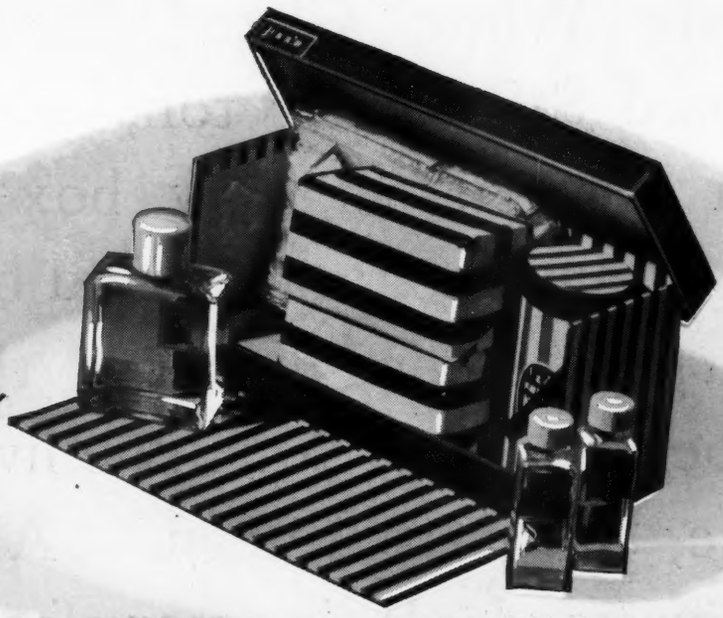
CARR-LOWREY GLASS CO.

Factory and Main Office: BALTIMORE 3, MD. • *New York Office:* 500 FIFTH AVENUE (18) • *Chicago Office:* 1502 MERCHANDISE MART (54)

OPAL JARS • HANDMADE GLASS BOTTLES • MACHINE MADE FLINT GLASS BOTTLES

For products that justify the finest in glass containers

CONSIDER THE SET-UP BOX



More for Your Money

INSTANT RECOGNITION MEANS SALES

IS your product competing for shelf display space? If it is, it will get a better acceptance with a set-up box. Chief among the versatile assets of this superior package is its increased display space. Effective display means instant product identification and additional business. How strongly you compete at point of sale helps to determine your sales. Packaging your product in a set-up box will give you sales-producing advertising as well as safer shipping and easier packing.

Consult your nearest set-up box manufacturer, or write Dept. 108, National Paper Box Manufacturers Association, Liberty Trust Building, Philadelphia 7, Pennsylvania, for the latest developments in the packaging field.

NATIONAL PAPER BOX MANUFACTURERS
Association

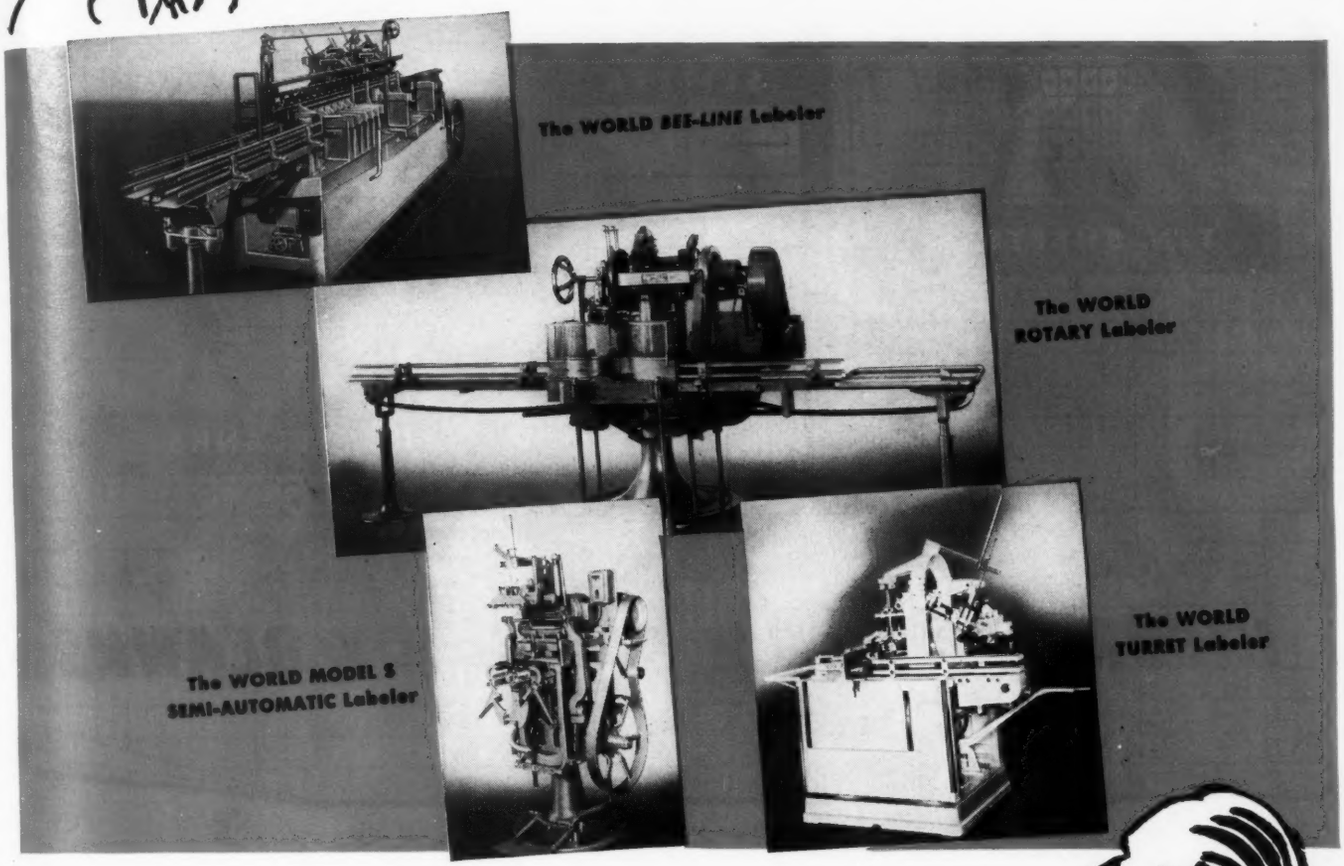
AND COOPERATING SUPPLIERS

Liberty Trust Building • Philadelphia 7, Penn.

FOR INFORMATION OR SERVICE • CONSULT YOUR NEAREST SET-UP BOX MANUFACTURER

Shoe box White Glazed $1.25 per ream; Chip-board $18.00 per ton; street car fares 6 for a quarter; hosiery boxes $8.00 per thousand; an ambitious errand boy $3.00 per week; a good stenog at $7.00; the boss's take $25.00 per week, on which he lived very well. All gone, never to return. All gone, too, are many standards in manufacturing. But they will come back; they are coming back now. One of these days you'll buy finer merchandise in every line than you ever bought before. The cost will be in keeping with your income. So, too, will we one day have the finest papers and sensible prices. Meanwhile, we continue to furnish as good as you can get, as reasonably priced as conditions permit. Your inquiries are invited for packaging papers. Matthias Paper Corporation, 165 W. Berks Street, Philadelphia 22, Penna. New England Address—Box 127, Wellesley, Mass. Southern Branch—Guilford Building, Greensboro, N. C.

Between Us WE CAN FIND



The BEST LABELER *in the* WORLD *for you*

In labeling as in so many mass production operations "one man's meat may be another man's poison." The very Labeler that works like a charm for someone else may prove totally inadequate or highly extravagant for *your* labeling job.

When you put it up to WORLD Labeler engineers, however, you can be confident that you'll come out with the one best Labeler for you. For WORLD builds every type of Labeler and is able to bring to bear on your problem the most extensive experience in Labeler design and application that's available in the WORLD.

Why not get in touch with our nearest office and check your present practice against the best labeling the WORLD can provide.

"YOU GET THE BEST LABELERS IN THE WORLD"

ECONOMIC MACHINERY COMPANY

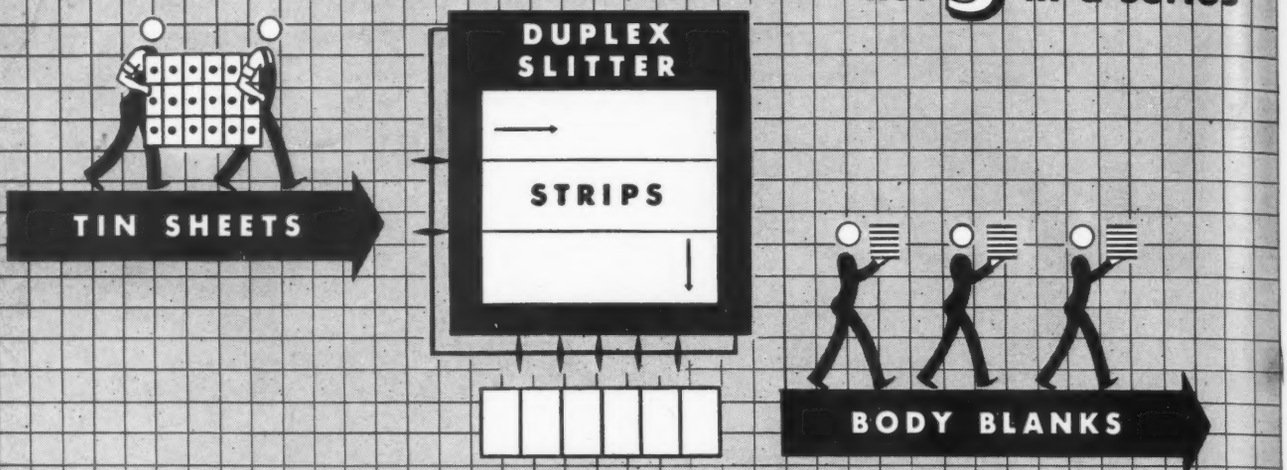
Builders of World Automatic and Semi-Automatic Labelers for Every Purpose

WORCESTER, MASSACHUSETTS

New York Philadelphia Pittsburgh Chicago San Francisco Denver
Louisville Salt Lake City El Paso Seattle Portland Phoenix London
Montreal Toronto Winnipeg Newfoundland Vancouver Mexico City
Sydney, Australia Wellington, N.Z. San Juan, P.R. Cuidad, Trujillo, D.R.

NATIONAL CAN PROTECTS QUALITY

no. 3 in a series



. . . ITS SLITTING METHODS INSURE UNIFORM CAN BODY BLANKS

Users of metal containers benefit by the methods used by today's can manufacturers to cut tin plate first into strips and then into the short rectangular sections which serve as "blanks" from which the bodies are formed. A single type of modern slitting equipment known as a duplex unit does both these operations.

In these duplex slitters, rotary cutters of hardened tool steel cut accurately, rapidly and cleanly so that a high degree of dimensional uniformity is assured. In duplex machines, body blanks are cut with the grain or in the direction in which the metal has been rolled, so that when bending is effected in the body maker, blanks will be bent *across* the grain.

Future advertisements will feature other reasons for you to have confidence that National Can protects quality in every manufacturing operation.

NATIONAL CAN

CORPORATION

Executive Offices: 110 EAST 42nd STREET, NEW YORK 17, N. Y.

SALES OFFICES AND PLANTS IN: BALTIMORE, MD. · CHICAGO, ILL. · HAMILTON, OHIO · BOSTON, MASS. · INDIANAPOLIS, IND. · MASPETH, N. Y. · McKEESPORT, PA. · ST. LOUIS, MO.

Flavors can be sealed in, moisture sealed out, exact dosage dispensed—with the easy-to-open WIRZ Monopak* single-use collapsible metal tube. Ideal for individual or sample units of coffee, dehydrated soups, pastes, hydroscopic powders and granular products. Contents remain fresh, pure. WIRZ Monopak* single-use tube is hermetically sealed, non-refillable. Requires no labeling or recapping. WIRZ Monopak* single-use tube may be the answer to your packaging problem. Let us explore its possibilities together.

*REG. U. S. PAT. OFF.

ESTABLISHED 1836

A. H. WIRZ Inc.

CHESTER, PA.

Export Division—751 Drexel Bldg., Philadelphia 6, Pa.

New York 17, N. Y. 50 E. 42nd St.

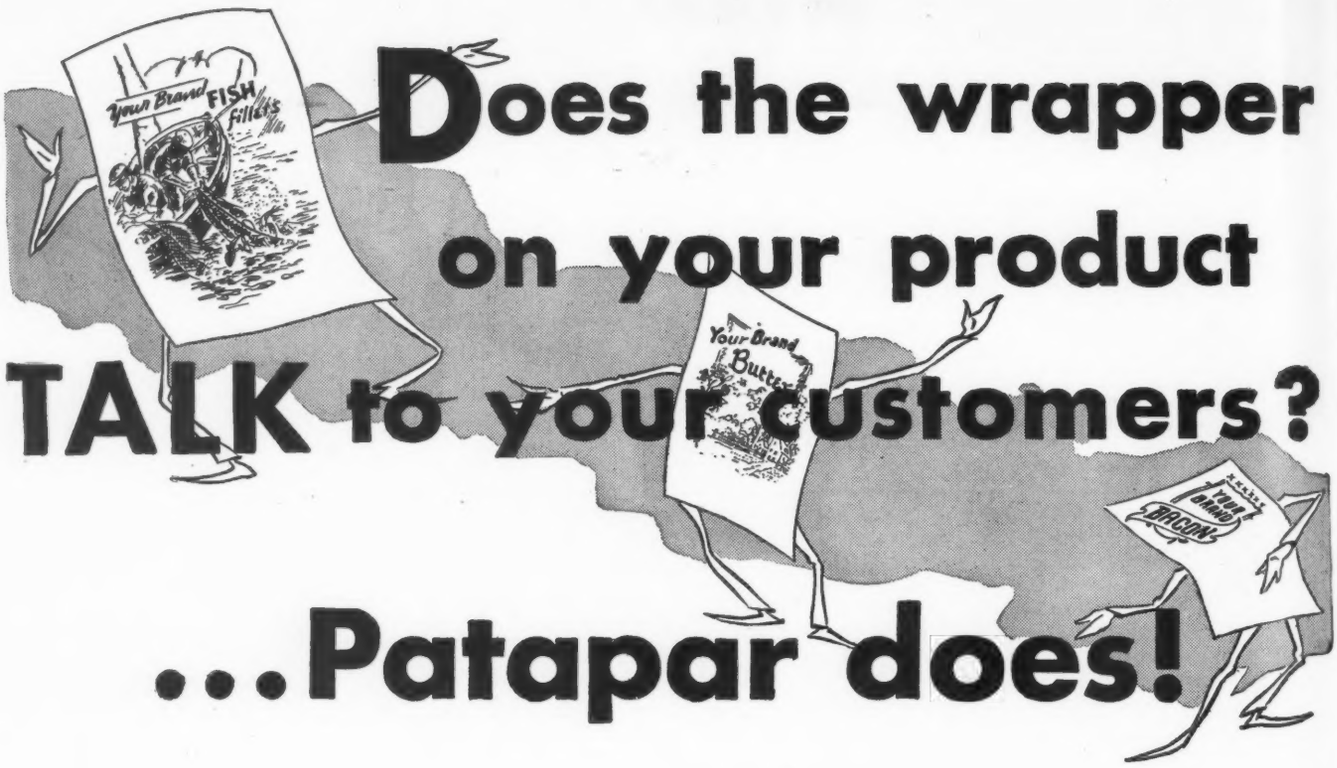
Chicago 4, Ill. 80 E. Jackson Blvd.

Memphis 2, Tenn. Wurzburg Bros.

Havana Cuba Roberto Ortiz Planos

A. G. Spilker Los Angeles 14, Calif. 1709 W. 8th St. Exposition 0178—Also Danville, Calif.

Collapsible Metal Tubes • Lacquer Linings • Wax Linings • Westite Closures • Soft Metal Tubing • Household Can Spouts • Applicator Pipes • Compression Molding



Does the wrapper on your product TALK to your customers?

...Patapar does!

Patapar* Vegetable Parchment wrappers don't actually make a noise. But when they're printed with attractive designs in bright colors they look so appealing they seem to say, "Here, take me home with you."

We print Patapar here in our own plants which are completely equipped for letterpress and lithographic printing. We'll print your Patapar wrappers in one color or several colors. We'll create designs for you, suggest colors, submit sketches, make the engravings — handle every detail.

High wet-strength • Grease-resisting

With Patapar wrappers your product gets protection as well as sales appeal. Patapar has the quality of high wet-strength. It can be soaked in water for weeks — even boiled and remain strong. Grease-proofness is another of its characteristics. When Patapar comes in contact with fats, grease or oils it resists penetration.

Patapar is odorless, tasteless, pure of texture.

KEYMARK *FREE* When you order printed Patapar we'll gladly include the Keymark on your wrappers at no extra cost. This Keymark is nationally advertised. Women know it as a symbol of protection. And when they see it on your wrappers it reminds them that your product inside is well protected.

*Reg. U. S. Pat. Off.

Paterson Parchment Paper Company • Bristol, Pennsylvania

Headquarters for Vegetable Parchment Since 1885

WEST COAST PLANT: 340 BRYANT STREET, SAN FRANCISCO 7, CALIFORNIA

BRANCH OFFICES: 120 BROADWAY, NEW YORK 5, N. Y. • 111 WEST WASHINGTON ST., CHICAGO 2, ILL.

60 to 90 day delivery

...on this cost-cutting automatic powder packager

Because of increased production facilities on Model U-1 Auger Packers, we are now able to make deliveries in weeks instead of months. There has been a heavy demand for this equipment because it is 15 to 25% faster than previous models, greatly reduces operator fatigue and is extremely accurate and easy to clean.

Here are the quick facts:

No pedals... Filling is *automatic* once container is placed in position... Packs into cans, bags, cartons, jars... Range 1 oz. to 5 lbs.... Production 20 to 30 packages per minute...Height 83"...Floor space 3'x 3'.

If you package powdered materials of any kind it will pay you to get in touch with us promptly in order to secure the benefits of this unusually efficient labor and money-saving unit as soon as possible. Write today.

TRIANGLE PACKAGE MACHINERY CO.

907 N. SPAULDING AVE., CHICAGO 51, ILL.

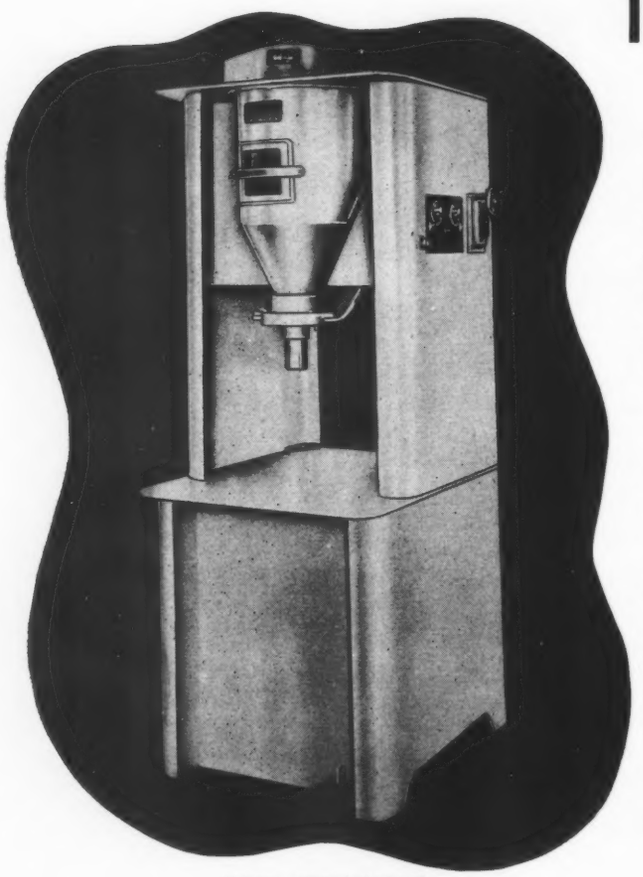
Operator places empty container on packing platform which rises to filling position.

When container reaches filling position, filling starts automatically. Operator takes another empty container with right hand.

Filling stops automatically at predetermined amount. Operator replaces filled container with empty one and filling operation is repeated.

Dependable — Versatile — Fast

THE RODGERS FILLER



PAT. PENDING

The new Rodgers Filler, designed by Cragar, has proven in actual factory output that it can surpass in operation any similar type filler in its field. A new type of over-running clutch, instead of a friction clutch, assures smooth operation and completely avoids any slippage. Simple dials independently control the fill time and the operator's time to transfer packages. No foot pedals are used to control the filling cycle. All of the bearings are of the sealed ball type. All mechanisms are located above the tube and auger, assuring no interference with mechanical parts. The Rodgers Filler is designed to accurately fill all types of rigid or flexible containers with pulverized, granular, crystalline, or paste materials. It will handle packages ⅓ oz. to 10 lbs. Height of machine is 79″, floor space 29″ x 36″, shipping weight 700 lbs.

Send us a sample of your product and we will give you specific information after a practical run on our filler.

The Rodgers Company Also Manufactures and Distributes:

BATCH POWDER MIXERS

Constructed in sizes up to 4000 lbs. capacity. Welded construction throughout. Supplied with motor and drive.

TUBE CLOSERS AND CRIMPERS

Folds, closes and crimps. Will make single or double folds for tubes up to 2½″ diameter. Simple and economical to operate.

STAINLESS STEEL TANKS AND KETTLES

Welded of the best type of 304 stainless steel and perfectly polished. Rodger Tanks and Kettles are built in standard sizes from 20 to 500 gallons. We can build any special size to order.

TUBE CLIPS

Adaptable to closing and clip-fastening machines, to fit tubes ½″ to 1½″ in diameter. Stocks of all sizes maintained.

PORTABLE AGITATORS

High speed or gear head agitators, ¼ to 2 HP. Propellers from 2½″ to 10″ and sturdy C-clamps provided.

TUBE AND JAR FILLERS

Motor driven or hand operated. Adjustable for filling pastes, ointments, creams, or semi-liquids. Hot water base and quick opening cover, 8 gallon capacity.

And *BELT CONVEYORS, CARTON SEALERS, PUMPS*

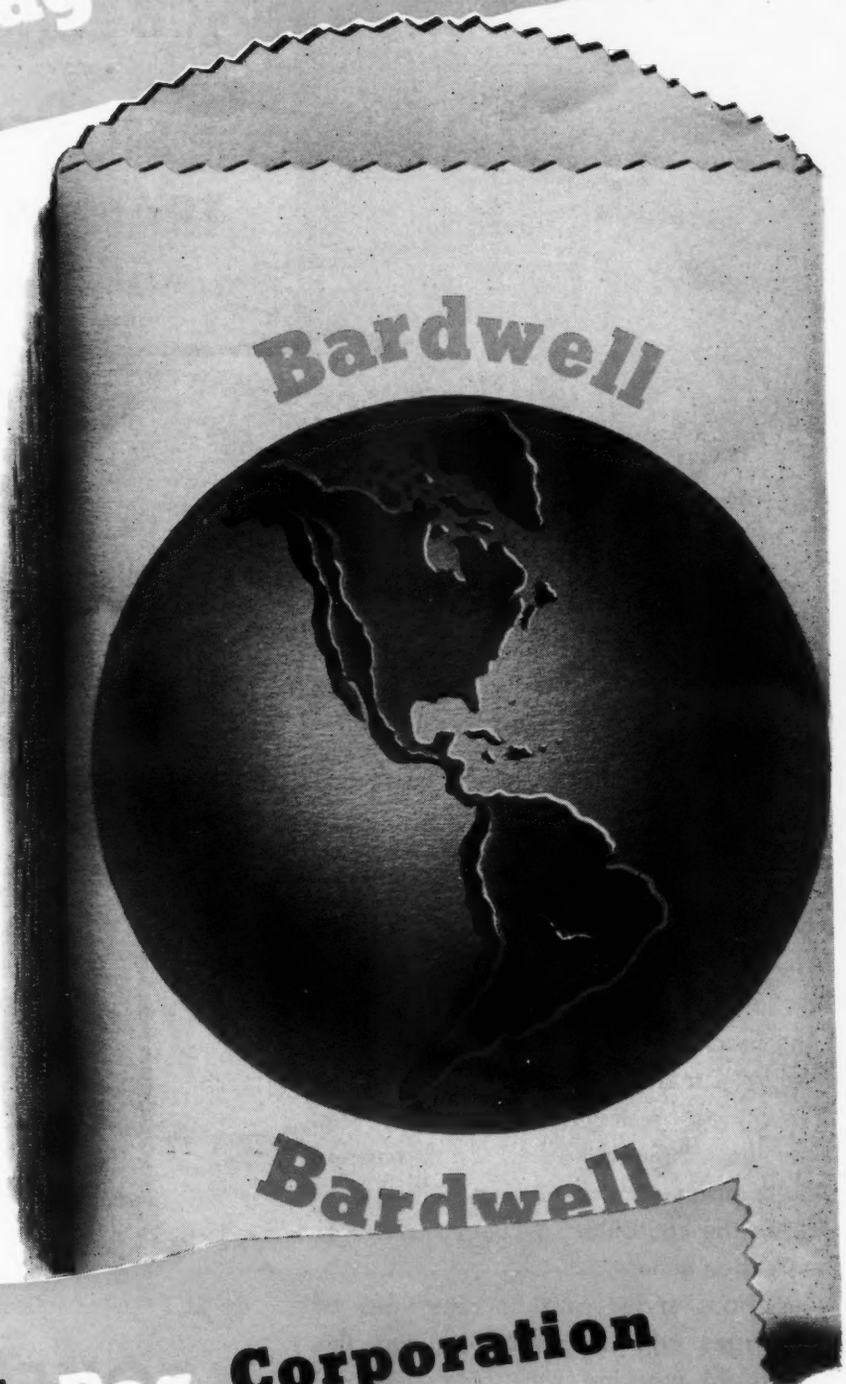
Send for complete details.

GEORGE G. RODGERS COMPANY, Inc.

225 WEST 34th STREET

BRyant 9-2040 NEW YORK 1, N. Y.

Quality in the Bag . . .



cellophane

glassine

pliofilm

foil

sulphite

parchment

Bardwell Bag Corporation

GRETNA, LA.

PROVEN PROTECTION

For FROZEN FOODS *with Automatic Packaging*

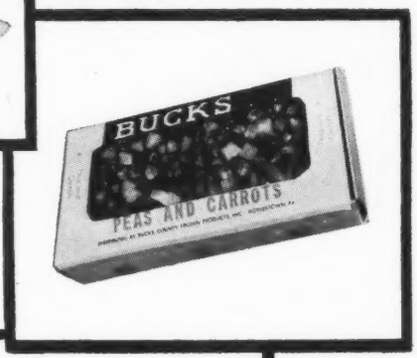
•

STOKES and SMITH TRANSWRAP MACHINE

specially constructed for frozen foods

Installation of Transwrap Machine at Bucks County Frozen Products, Incorporated, Doylestown, Pa., packaging pre-frozen foods in moisture vapor-proof Cellophane packages.

Left—Cellophane Transwrap Package with Printed Tab.



Right—Cellophane Transwrap Package in Window Carton.

Cellophane Transwrap Package in Printed Carton.

The pre-frozen foods are fed through a hopper to the transwrap machine. The machine feeds the cellophane from the roll, automatically forms the bags, fills a measured quantity of the product into the bag and heat seals, delivering the complete packages ready for packing in the container at speeds of 40 or more per minute.

Various styles and combinations of packages can be used,—making this the ideal machine for "Frozen Food" Packagings.

STOKES & SMITH Co

PACKAGING MACHINERY — PAPER BOX MACHINERY

FILLING • PACKAGING • WRAPPING MACHINES

FRANFORD, PHILADELPHIA 24, PENNA.

"Better machines for better packages"

INDUSTRIAL TAPE CORPORATION

New Brunswick, N. J.

"TEXCEL" REG. U. S. PAT. OFF.

Who?

WHO'LL move into the empty space in this picture? It's waiting for some up-and-coming company that wants the best tubes money can buy.

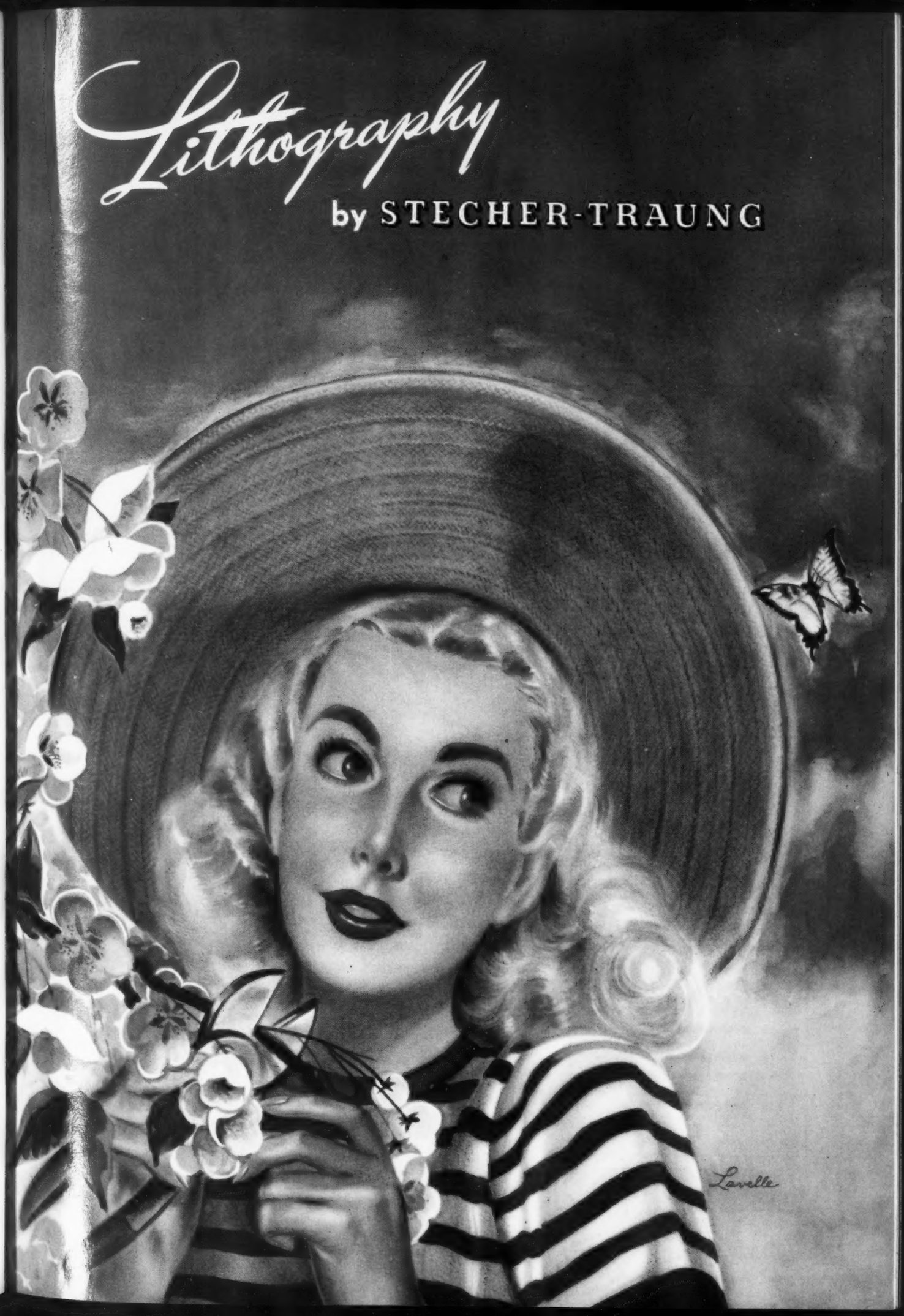
We're already making tubes for some of the best-known names in all business. You see a few on this page. But we're still eager to take on some promising young product (or maybe products) and give them the good engineering, beautiful reproduction and precise uniformity that make Sun Tubes outstanding.

If you're interested, call us. Our main office is at 181 Long Avenue, Hillside, New Jersey. Or if it's handier, call any one of the men listed below.

Sun Tube Corporation

Hillside, New Jersey

CHICAGO 3, ILL., James L. Coffield, Jr., 105 West Adams Street
LOS ANGELES 27, CALIF., R. G. F. Byington, 1260 North Western Avenue
ST. LOUIS 1, MO., M. P. Yates, Arcade Building
ST. PAUL 1, MINN., Alexander Seymour, 615 Pioneer Building
CINCINNATI 8, OHIO, Ralph H. Auch, 3449 Custer Road


Lithography
by STECHER-TRAUNG
Lavelle

For More Buy-Appeal

FULL COLOR *Lithography*

COMPETITION won't let up in the battle for sales. That means *you can't afford to!* Retain your place in the race—or even forge far ahead—by endowing your labels, box wraps and packaging materials with the buy-appeal and selling power of top quality FULL Color lithography.

We suggest you get in touch with Stecher-Traung. Learn how you, too, can increase the buy-appeal of your product by using sparkling, dramatic FULL Color *lithography that sells*—the kind of lithography that has marked the creative work of master craftsmen for over 75 years.

TOP QUALITY FULL COLOR LITHOGRAPHY

- LABELS
- BOX WRAPS
- SEED PACKETS
- FOLDING BOXES
- MERCHANDISE ENVELOPES AND CARDS
- ADVERTISING MATERIAL

STECHER-TRAUNG
LITHOGRAPH CORPORATION
Rochester 7, N.Y. • San Francisco 11, Calif.
Offices in Principal Cities

IS YOUR PRODUCT LISTED HERE?

(or if it is even remotely related)

ELECTRIC RANGES	GAS RANGES
DEEPFREEZE UNITS	REFRIGERATORS
WATER HEATERS	OFFICE DESKS
STEEL FILING CABINETS	BROOMS
WALLBOARD	MATTRESSES

Bemis' sturdy kraft paper covers get these and many other products to market with easy handling, low shipping charges, and ample protection.

Bemis covers are slipped over the product in a jiffy to seal out dust and dirt. With this scuff-resistant cover, the product can be stored for months and be ready to go onto the display floor sparkling fresh at any time.

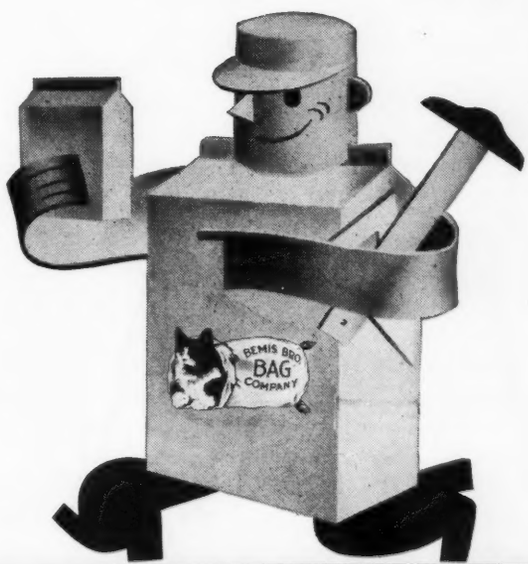
You can probably save substantial sums on shipping charges alone by talking with the Bemis Paper Bag Specialty Man.

BEMIS BRO. BAG CO.

BEMIS BRO BAG COMPANY

PAPER BAG SPECIALTY DIVISION • 1054 South Vandeventer, St. Louis, Mo.

Then...see how BEMIS can serve you with Good Packaging at Low Cost



FILL OUT AND MAIL THIS COUPON TODAY

BEMIS BRO. BAG CO., Paper Bag Specialty Div.
1054 South Vandeventer, St. Louis, Mo.

How can Bemis help cut packaging costs for our products? We manufacture_____

*Name*_____

*Firm Name*_____

*Street*_____

*City*_____ *State*_____

"I CAN READ ONLY THE TOP ONE"

"NATURALLY... IT'S STENCIL-MARKED!"

ACTUAL COMPARATIVE LEGIBILITY FROM A DISTANCE OF 6 FEET

Easy legibility...even in dimly lighted places such as freight cars and loading platforms . . . is just one of the big advantages of D.-B. Stencil-marked Addresses. D.-B. Stencil-marked Addresses are easier to read... are not obliterated by rain or damp weather... never slow down delivery or cause packages to end up in the "lost shipment warehouse". *No wonder common carriers actually recommend stencil-marking over labeling or hand-marking.* Investigate the greater speed, dependability, and long-range economy of D.-B. Stencil-marked Addresses. No obligation to have our factory-trained packaging and marking engineer analyze your procedure. Our telephone's listed under "Stencil Cutting Machines". Or write:

WORLD'S LARGEST MANUFACTURER OF STENCIL CUTTING MACHINES

D.B. REG.U.S. PAT OFF

DIAGRAPH-BRADLEY
STENCIL MACHINE CORPORATION
ST. LOUIS 8, MISSOURI

DISTRIBUTORS IN PRINCIPAL CITIES—SEE CLASSIFIED SECTION—TELEPHONE DIRECTORY—STENCIL CUTTING MACHINES

OVER 100 D-B ITEMS FOR THE SHIPPING ROOM

Packages for Scott's and Kerr's Potato Chips manufactured by Milprint, Inc.

PACKAGES OF *Alcoa* ALUMINUM FOIL

LOCK IN CRISPY FRESHNESS
BLOCK OUT HARMFUL LIGHT

Aluminum Foil's sparkling surface does more than catch the shopper's eye. It reflects away the harmful sunlight that deteriorates potato chips and many other products.

Alcoa Aluminum Foil is lightproof, moistureproof, gasproof, greaseproof. When sealed in aluminum foil, potato chips stay fresh and crisp. Flavor can't leak out, dampness can't creep in.

For eye appeal *plus*, your package of Alcoa Aluminum Foil may be embossed or printed with any of a wide variety of transparent or opaque inks and lacquers.

Leading package manufacturers have had wide experience in developing packages using Alcoa Aluminum Foil. Their expert advice is available to help you plan better packages for the future. For their names, write to ALUMINUM COMPANY OF AMERICA, 2129 Gulf Building, Pittsburgh 19, Pennsylvania.

MORE people want MORE aluminum for MORE uses than ever

ALCOA ALUMINUM FOIL

THE QUALITY PACKAGING MATERIAL FOR QUALITY PRODUCTS

This impulsive lady buys ¾ of all goods sold at retail. She decides *what brand* at the point-of-sale. There—it's up to your *package!*

Conversion—1947 style

LEADING MERCHANDISERS are alert to changing conditions. They know that with increasing competition for shelf and counter display—with the rapid growth of self-service retailing and "impulse buying"—*selling at the point-of-sale* TODAY has become increasingly a function of the package.

They call upon Ritchie to produce *standout* packages that attract consumers, arouse interest, and give a quick, convincing impression of product quality.

They call upon Ritchie to produce millions of such packages *on time—at low unit cost!* And *in this* Ritchie does not fail them.

Ritchie has worked 81 years, developing the "know how," the specialized facilities and trained personnel that meet these requirements.

WAY TO INCREASED SALES. Let Ritchie help you develop a package that meets the increasing challenge of self-service retailing. A practical, production-planned package that instantly identifies, fully protects and conveniently dispenses your product. Easy to fill or pack—to handle, to stack or display—but above all an attractive, SELLING package.

A good product. Strong advertising. An effective package . . .
The Eversharp C. A. Pen package—by Ritchie.

Never the Power

COPYRIGHT W. C. RITCHIE & CO.

W. C. Ritchie and COMPANY
8543 Baltimore Avenue • Chicago 17
★ SET-UP PAPER BOXES
★ FIBRE CANS
★ TRANSPARENT PACKAGES

Underestimate of the Package!

NEW YORK • DETROIT • LOS ANGELES
ST. LOUIS • MINNEAPOLIS • MILWAUKEE • PITTSBURGH
PORTLAND • SEATTLE • MIAMI

STAPLING AS A SOLUTION TO PACKAGING PROBLEMS

Fastening with Wire Offers Important Aids to Better Packaging

To get a container that has competitive sales appeal . . . that is serviceable, attractive to the buyer and economical to use and manufacture . . . calls for careful study of methods of fastening.

Attractiveness, security, speed in production and economy—all may depend on the fastening method employed.

A manufacturer of oakum in Norfolk, Virginia, developed a special dispenser carton which permits the required amount to be pulled out as needed through a slot in the flaps. Glue failed to anchor the flaps adequately. Two Bostitch staples straddling the slot at each end, however, did the job. The flaps were strongly fastened and the slot could be designed for maximum accessibility. In addition, the manufacturer found that product salability was enhanced and a "remarkable labor saving" was achieved.

A Providence, Rhode Island, jewelry manufacturer formerly fastened watch bracelets on cards by hand. Holes were punched and covered wire staples attached at a cost of about one dollar per thousand. When a Bostitch button stitcher was installed, cost dropped to *one cent* per thousand and production increased from 144 units per hour to 300 units per hour.

A Los Angeles manufacturer found his previous packaging methods slow, expensive and inefficient. Since changing to Bostitching he claims 50% time saving, 25% total cost saving and a more secure package.

Examples like these are numerous in nearly every industry in which the final product is packaged for delivery or display. And because stapling allows the designer to develop fully the essential qualities of strength, attractiveness, durability and economy, more and more manufacturers are finding that Bostitching furnishes the best answer to their packaging requirements. Nearly 800 models of fastening machines and the largest staff of field representatives in the business make Bostitching available to every manufacturer who needs a practical solution to a packaging problem.

"Savings So Great" . . . Method Now Standardized in Five Plants

Difficult job made easy

Bostitching, in one operation alone, saved a famous boat builder 57% in time . . . made similar savings in four other operations. Result: Bostitching now standarized in all five of his plants.

Others save, too: A big commissary company saved 20-25% time Bostitching sandwich wrappers . . . gained 30% sales increase from package's improved appearance. A paintbrush maker doubled production.

No matter what materials you fasten: plastics, cloth, wood, paper, leather, or even metal . . . one of the 800 Bostitch machines may do it better and faster with wire. Skilled research engineers and 250 field men in 91 key cities offer you the benefits of 50 years' Bostitch experience to help solve your fastening problems.

Get more data: Broadside B-188 contains helpful information on representative models of the world's most complete line of stitchers, staplers, tackers, hammers. Tacker folder B-138 describes eight machines for hand and power tacking. Write for your copy.

BOSTITCH

fastens it better AND FASTER *with wire*

ALL TYPES OF STAPLES APPLIED BY MACHINES
ALL TYPES OF MACHINES FOR APPLYING STAPLES

Bostitch, 508 Mechanic Street, Westerly, R. I. 50
(Bostitch-Canada, Ltd., Montreal).

Please send literature checked:

☐ B-132, Shipping Room tools and applications ☐ B-157, Bostitching—the modern carding method
☐ B-175, Bostitching for Bag Sealing ☐ B-188, Showing representative Bostitch time-saving tools

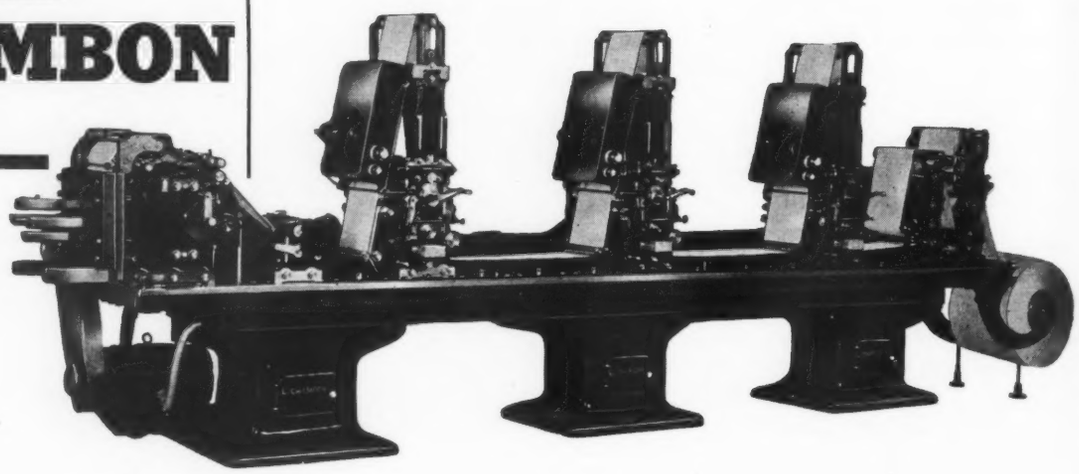
Name.....

Company.....

Address.....

THE COMPLETE GRAVURE PRESS

THE CHAMBON



The Chambon Rotary Press is capable of an infinite variety of operations.

Illustrated is the Chambon rotogravure press equipped for three-color printing and die-cutting as the final operation. Like all Chambon Presses, the basic design is standard—the bed of the machine is built to allow interchange of units to suit your particular job. This enables you to have several operations going on simultaneously, thus cutting your production costs.

All Chambon Presses are custom-built to your needs and specifications. They can be equipped for numbering, creasing, embossing, perforating, scoring, rotary or flat die-cutting, rotary or guillotine sheet-cutting, rewinding, and many other operations.

This is No. 4 in a series of advertisements illustrating the Chambon Rotary Presses.

All Chambon presses are famous for

- **SIMPLICITY OF DESIGN**
- **INTERCHANGEABLE UNITS**
- **REDUCED PRODUCTION COSTS**
- **STRONG CONSTRUCTION**
- **CONSISTENT QUALITY OF WORK**
- **CUSTOM-BUILT TO YOUR SPECIFICATIONS**

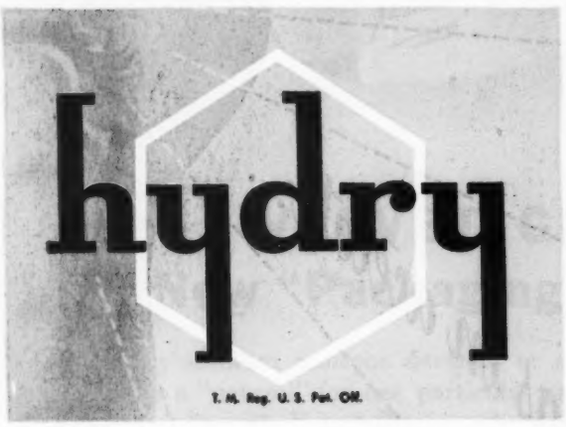
L. CHAMBON CORPORATION

Custom Printing Presses

320 WEST 46th STREET • NEW YORK 19, N. Y.

Chambon Rotary Printing Equipment from 7" to 28" (Aniline, Letterpress, Offset, Rotogravure) Diecutting, Sheetcutting or Rewinding Attachments; Slitters and Rewinders from Tissue to Cardboard; Laminating and Coating Attachments. Complete line of Converting Equipment for Cigarette Papers; Box-Printing and Forming Machines (Folding and Set-Up).

For packaging—it's



Introduced but a short time ago . . . HYDRY printing inks are now proved necessities in the packaged goods field. Food, confectionery, tobacco and drug producers have found these quick-dry, odorless inks speed production of wrappers and labels, sometimes *by weeks*. Waxing, folding and die-cutting start as sheets come off the presses—even in damp weather.

But quick-dry, odorless HYDRY inks are not limited to the packaging field. They are also specified for other printing requirements in the graphic arts fields. Specification of HYDRY may solve *your* printing delays. Write for the illustrated HYDRY booklet. Discover HYDRY's many applications. Also, how they fit your own ideas of increased efficiency and greater economy.

CHECK YOUR

PRINTING PROBLEMS

AGAINST THESE HYDRY FEATURES:

- ***Fast Drying***—Dries on most stocks in 10 to 30 minutes; on presses equipped with steam applicator dries instantly!
- ***Odorless***—Finished prints entirely devoid of ink odor.
- ***Brilliant Colors***—Ink film reflects light, gives superior brilliance and cleanliness.
- ***Non-Offset***—Possibilities of offset reduced to a minimum.
- ***Non-Smear***—Dry-hard finish extremely resistant to rubbing and smearing.
- ***Non-Crystallizing***—Can be overprinted, even after several weeks.
- ***Sharper Printing***—Does not spread or bleed.
- ***Folding Qualities Improved***—Affords better moisture content in paper stock.
- ***Improves Heat-Sealing of Waxed Wrappers***—Will not mix with wax film during heat-sealing operations.

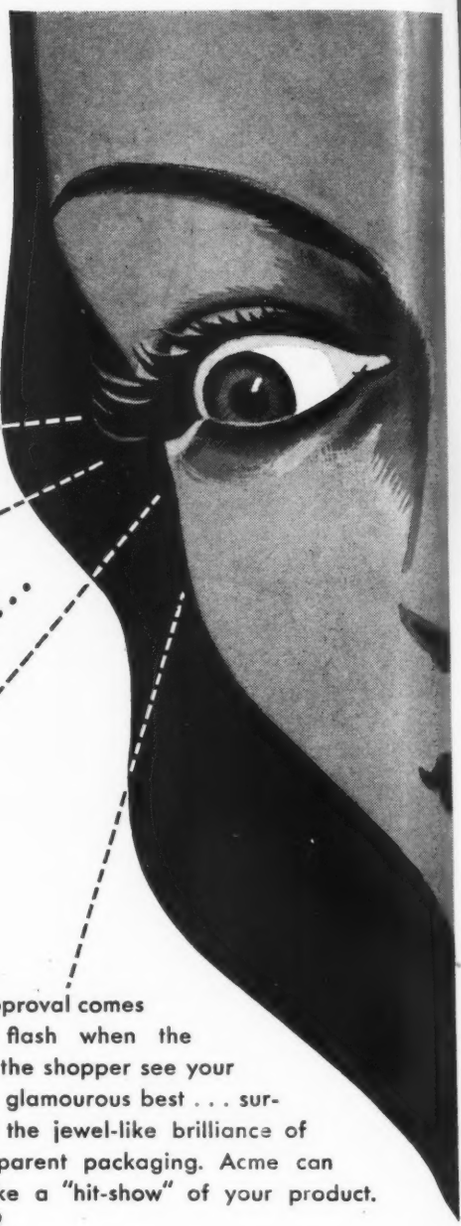
Sun CHEMICAL CORPORATION

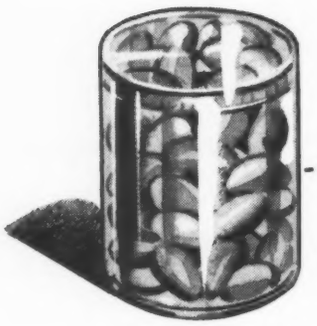
GENERAL PRINTING INK DIVISION

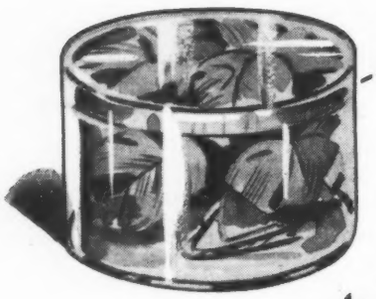
100 SIXTH AVENUE, NEW YORK 13, N. Y.

American Printing Ink • Eagle Printing Ink • Fuchs & Lang
Geo. H. Morrill • Pacific Coast • Sigmund Ullman • E. J. Kelly Company • General Printing Ink Corporation of Canada, Ltd.

AN "AYE" FOR AN EYE! . . .

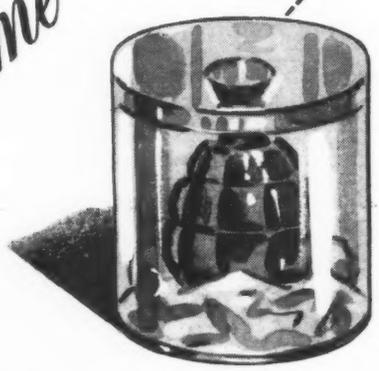


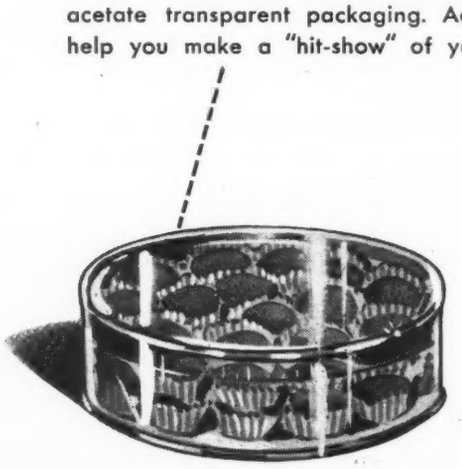




Acme creates the ideas in acetate . . .

Enthusiastic approval comes quick as a flash when the keen eyes of the shopper see your product at its glamourous best . . . surrounded with the jewel-like brilliance of acetate transparent packaging. Acme can help you make a "hit-show" of your product.





ACME PAPER BOX COMPANY

STATE AT SIXTIETH ST., CHICAGO 21, ILL.

DESIGNERS • CREATORS • MANUFACTURERS

- INTRIGUING SET-UP BOXES
- SPECIALIZED PACKAGING
- CREATIVE FOLDING CARTONS
- UNUSUAL MERCHANDISE COUNTER DISPLAYS

THE BETTER THE PRODUCT THE MORE IMPORTANT THE PACKAGE

VELVET-GLO
A New "Packaging Natural"

Every so often someone develops or discovers something that's a "natural" for one particular purpose. That's the way it is with Velvet-Glo . . . the new velvet-like fabric that's so admirably suited for all packaging ideas where the use of velvet or any fabric is indicated.

Available in 16 beautiful colors or dyed to match any special shade requirements. 52" wide.

Your Inquiry Is Invited.

Frankel Associates Inc.

Novelty and Decorative Fabrics

218 WEST 47th STREET, NEW YORK 19, N.Y.

LOS ANGELES OFFICE 819 SANTEE ST.

HOW DOES YOUR EQUIPMENT STAND?

The most perfectly designed set-up box, can or container, will suffer by comparison unless it is as skillfully produced as it was designed.

With rare exceptions, there is a Knowlton machine that can be used to assure packaging producing perfection. Under present conditions, it is difficult to escape high production costs when you add high wage scales to the cost of operating obsolete or run down machinery.

How does your equipment stand? Perhaps one or more notably accurate, high speed and efficient Knowlton units will step up your production and lower your costs.

SET UP BOXES

Scorers — double and single
Rotary Creasers — double and single
Corner Cutters — double and single
Automatic Flange Benders
Slitters
Stayers
Strippers
Coverers
Toppers

FIBRE CANS

Automatic Convolute Winders
Spiral Winders
Re-Cutters
Drum Winders
Seamers

CORRUGATED or SOLID FIBRE CONTAINERS

Coating Machines
100" Slotter
100" Rotary Creaser and Cutter
Bar Creaser

COSMETIC BOXES and POUCHES

Sheet Gluers
Lap Tube Roller
Re-Cutters

BOSTON
627 Massachusetts Ave.
(ARLINGTON)

M. D. Knowlton COMPANY

BROOKLYN
43-53 Beaver St.

CHICAGO
9 S. Clinton St.

TORONTO, CAN.
360 Richmond St., W.

Pacific Coast Representatives
H. W. BRINTNALL CO.
Los Angeles, San Francisco, Seattle

ROCHESTER, NEW YORK

From light to dark shades...

A COMPLETE RANGE OF

ROSIN SIZES

TO MEET YOUR NEEDS

CYANAMID Rosin Sizes, both Gum and Wood, are available in commercial grades, liquid and dry. The range runs from pale grades for light-colored papers to darker, more economical grades where color considerations are secondary.

Pale wood rosin size, comparable in color to high grade gum size, is broadly used in the industry today. It brings the paper manufacturer the much-sought advantages of exceptional cleanliness and uniformity —plus excellent paper machine performance and high sizing efficiency. In addition, economies can be effected, for pale wood rosin size is generally priced under gum rosin size of comparable grade.

Cyanamid will be glad to discuss the practical use of various grades of rosin size with you. For help in solving any paper chemical problem, call or write your Cyanamid representative.

WHEN PERFORMANCE COUNTS . . CALL ON CYANAMID

Industrial Chemicals Division

AMERICAN CYANAMID COMPANY

30 ROCKEFELLER PLAZA • NEW YORK 20, N. Y.

DISTRICT OFFICES: Boston, Massachusetts; Philadelphia, Pennsylvania; Baltimore, Maryland; Charlotte, North Carolina; Cleveland, Ohio; Chicago, Illinois; Kalamazoo, Michigan; Detroit, Michigan; St. Louis, Missouri; Azusa, California; Seattle, Washington. In Canada: Dillons Chemical Company, Ltd., Montreal and Toronto.

Waxes • ALWAX** Sizes • WAXINE*
Sizes • Rosin Size • PAREZ* Resins
Synthetic Resins • Casein • Alum
Sulphonated Oils • Fillers • Defoamers
Soda Ash • Caustic Soda • Salt Cake
Acids • Clays • Satin White
AEROSOL* Wetting Agents
CAL, MICRO** (Calcium Carbonate), and other Paper Chemicals
For low-cost chemical equivalent of distilled H₂O... FILT-R-STIL* Demineralizing Units.
*Reg. U. S. Pat. Off. **Trade Mark

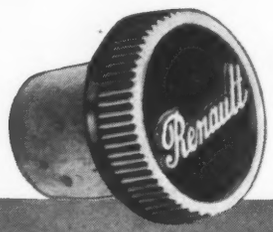
Air-Tight Seal with Eye-Appeal

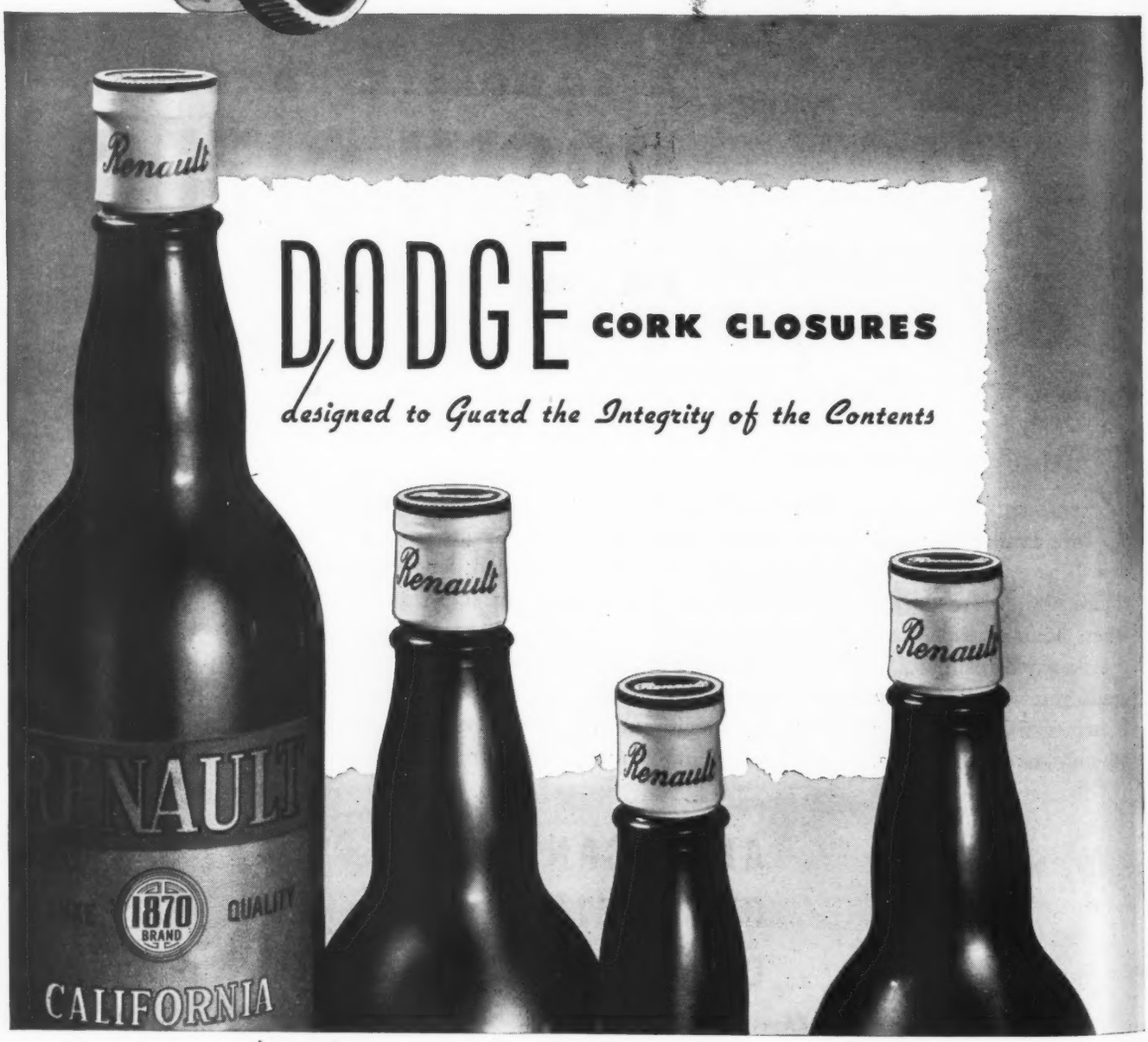
DODGE MILBOSSED-TOP CORKS

To SEAL in the savor of their fine flavored wines, Renault's choice is Dodge Milbossed-Top Corks. These distinctive and thoroughly dependable closures are made of high grade natural cork . . . cut to precise dimensions. Easy to remove . . . easy to replace, they always keep the bottles airtight. Note, too, how clearly the name is embossed on the sturdy, hardwood tops. Instantly, the product is identified as Renault's.

What Dodge has done for Renault, Dodge can do for you. Dodge Milbossed-Top Corks are available in a broad range of sizes and colors. Tell us your requirements.

DODGE CORK COMPANY, INC., LANCASTER, PA.





TRANSPARENT PACKAGES

by Traver . . .

TURKEYS

Fifteen seconds to a bird: Complete packaging with an air-tight seal is made possible in this record time with TRALON, adaptable new plastic packing material by Traver. As the bird is placed in this sturdy, patented ROUND END bag, all air is evacuated and a quick tie leaves the turkey thoroughly protected in semi-vacuum.

TRALON is an inert substance—tasteless, odorless, greaseproof, waterproof and freezeproof—which assures complete preservation. Attractively printed TRALON creates demand: Consumers remember quality and ask for TRALON-packaged birds.

Members of the Washington Cooperative Poultry division and Traver technicians make a pleased inspection of a TRALON-wrapped turkey off the production line.

Confident of the full protection afforded by the flexible TRALON ROUND END bag, a worker packs a box of turkeys for shipment.

Photos show Traver transparent sales package in actual use

WRITE OR WIRE—DEPT. M

Traver CORPORATION

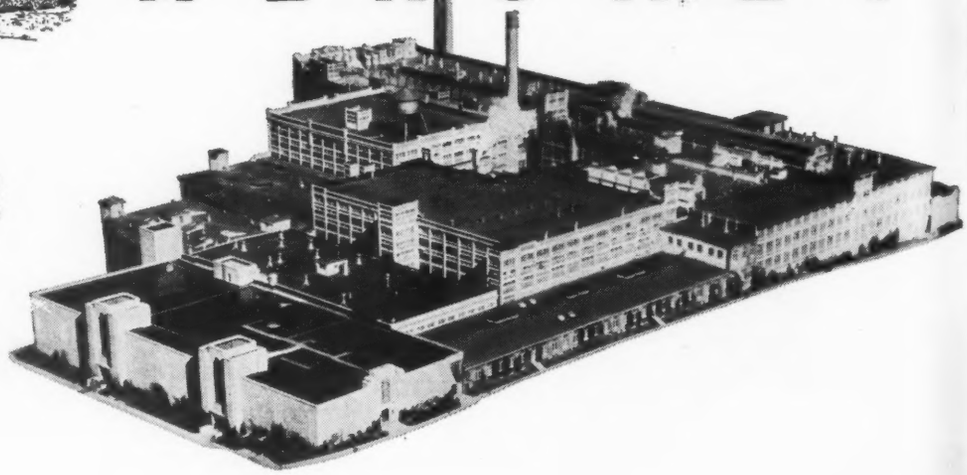
358 WEST ONTARIO STREET, CHICAGO 10, ILLINOIS

CONVERTERS, PRINTERS-CELLOPHANE, PLASTICS, ACETATES, FOIL AND GLASSINE

SUCCESS STORIES OF AMERICAN BUSINESS

HERSHEY

HOW FAILURE



..... BROUGHT SUCCESS

M. S. Hershey was 20 years old when he opened his first confectionery shop in 1876. By 30 his business had failed twice. But building well on the lessons of failure, he started a third time—a caramel business which enabled him to pay off his creditors and which he sold 15 years later for $1,000,000!

He then went back to his birthplace and made his fourth start. On a sprawling Pennsylvania cornfield, and out of the profits of his popular chocolate, Hershey's new factory and community became models of success.

Hershey devoted a fortune to his school for orphan boys, and before his death in 1945 had started more than 1000 boys toward success . . . all with educations, trades, and money in their jeans . . . a great contribution made possible only by American opportunity and ability.

HERSHEY'S 5¢ MILK CHOCOLATE HERSHEY'S MILK CHOCOLATE

HOW HERSHEY USES RIEGEL FUNCTIONAL PAPERS

Riegel's Snopaque glassine met the high standards that Hershey set for the packaging of its various Chocolate Bars. Its high grease resistance prevents the cocoa butter content from penetrating and staining the wrap and in addition presents an attractive, clean appearance at the ends. Riegel's Printed Greaseproof is used as a wrap for individual squares of Hershey Baking Chocolate, and many other special Riegel papers are serving, and have served to help maintain Hershey's high quality standards.

Riegel Papers

FOR FUNCTIONAL PACKAGING

187

RIEGEL PAPER CORPORATION • 342 MADISON AVE. • NEW YORK 17, N. Y.

for special spiral packaging . . . "call Cleveland"

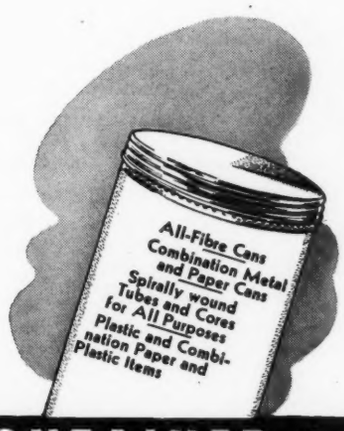
eye catchers

that possess many advantages to you

New marketing possibilities often may be multiplied through new packaging expertly designed to meet new needs.

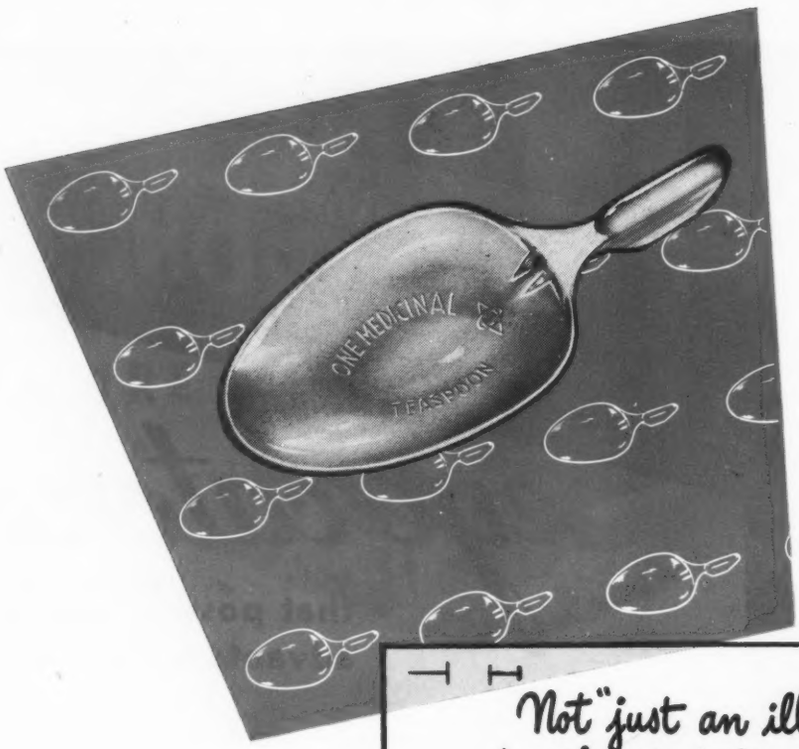
In addition to individuality of design conducive to increased public acceptance, CLEVELAND CONTAINERS possess the further attributes of added strength and rigidity . . protective cleanliness . . less weight for handling and shipping . . and that rare combination of quality offered at low production cost.

For experienced counsel consult our Creative Design Dept.


All-Fibre Cans
Combination Metal and Paper Cans
Spirally wound Tubes and Cores for All Purposes
Plastic and Combination Paper and Plastic Items

The CLEVELAND CONTAINER Co.
6201 BARBERTON AVENUE CLEVELAND 2, OHIO

PRODUCTION PLANTS also at Plymouth, Wisc., Ogdensburg, N. Y., Chicago, Ill., Detroit, Mich., Jamesburg, N. J.
PLASTICS DIVISIONS at Plymouth, Wisc., Ogdensburg, N. Y. • ABRASIVE DIVISION at Cleveland, Ohio
New York Sales Office—1186 Broadway, Room 223
IN CANADA—The Cleveland Container Canada Ltd., Prescott, Ontario



Not "just an illustration"... for the first time in years this item is actually available!

A TEASPOON THAT IS A TEASPOON!

There are approximately twenty-nine different size spoons that call themselves "teaspoons"!

Owens-Illinois' thermo-plastic spoons are *accurate* medicinal teaspoons. *Our equipment is ready to turn them out for you NOW.*

O-I is a big source of small plastic items. Strong, uniform, dependable . . . they maintain the same high standards you have always known in all our products.

If you need small plastics in large quantities, we are ideally suited to serve you.

LOOK FOR THIS TRADE MARK

PLASTICS DIVISION

OWENS-ILLINOIS GLASS COMPANY

TOLEDO 1, OHIO • BRANCHES IN PRINCIPAL CITIES

Velour by Nashua

HIGH PRECISION VELOURING EQUIPMENT WITH CAPACITY UP TO 54" WIDE NOW IN PRODUCTION AT NASHUA

The colorful card box pictured here is a typical example of Nashua's high quality velour paper. And now, still further increasing production standards, Nashua announces the installation of new high precision velouring equipment.

Now, Nashua velours are available in widths up to 54".

Furthermore, you'll find Nashua velours whether on plain paper, crepe paper or vinylite film better than ever in uniformity of pile, shade and texture.

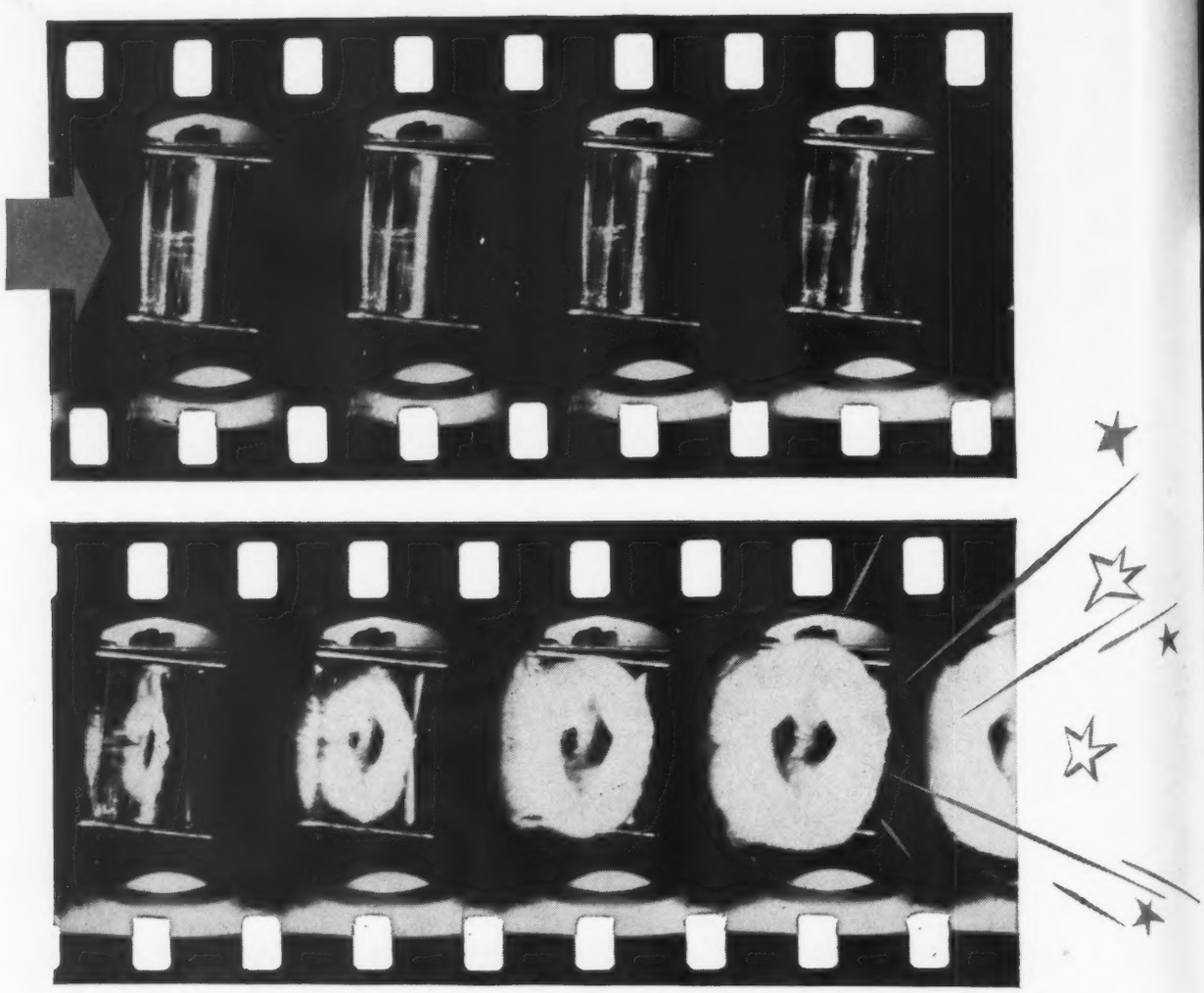
Write for information on how Nashua's velour products can aid your packaging or display problems.

ILLUSTRATION COURTESY OF
UNITED STATES PLAYING CARD CO.

NASHUA GUMMED AND COATED PAPER COMPANY

NASHUA, NEW HAMPSHIRE

NASHUA
MAKES PAPER MAKE MONEY FOR YOU



CURIOSITY—at 70 miles per hour!

Pictured above are eight frames which a high-speed movie camera has taken of a bursting can.

The can itself is in a machine built for the purpose of seeing how much pressure is needed to make the seams of containers fail.

And the pictures show us just *how* and *where* the event occurs.

We take pictures like this because we're curious. In this case, our curiosity travels as fast as 70 miles per hour, or 4000 exposures per second.

You've got to be eager to know, if you're determined to be the leading can maker in the world.

Cat killers . . .

For you've got to look under every stone . . . tramp up every scientific alley of investigation . . . have the curiosity that kills cats, but makes good scientists . . . if customers are to be served well.

This same attitude and habit of mind applies to everything that's done at the General Research Laboratory of American Can Company at Maywood, Illinois. Solder, enamel, steel, tin, and sealing compounds get the same thorough going over. Processing techniques are being continually investigated and improved. Fundamental research in the nutritive values of canned foods proceeds daily.

Why?

Why all this? Because metal containers play such an important part in American life that they're almost taken for granted.

We feel, therefore, that we have an obligation to make the best metal containers possible.

AMERICAN CAN COMPANY CANCO NEW YORK • CHICAGO • SAN FRANCISCO

NO OTHER CONTAINER PROTECTS LIKE THE CAN

Visit our booths at the Packaging Exposition in Philadelphia, Pennsylvania. April 8-11. Booths #52-#53.

Modern PACKAGING

VOLUME 20

NUMBER 8

APRIL 1947

Post's circus packages—a premium incentive to sell 30,000,000 families in April.

PREMIUMS

More than ever in this day of self-service selling, the package is the key medium for premium promotion; leading companies are returning to these time-tested sales stimulants

Makers of fast-moving packaged items are practicing up on every known type of business getter in the developing fight for the consumer's dollar.

Favorite brands are reappearing quickly on store shelves and sales forces know they must offer added incentives to keep old customers, to get new ones and to win acceptance for new products.

Noticeable in this race is the intensified interest in premium selling. Go into any grocery store and you can pick up dozens of packages that say "send box-top and a coin" for anything from a paring knife to perfumed ear-rings, a Victory Sword pin or Atom-bomb ring—or packages that say "save valuable coupon" redeemable (if you save enough of them) for watches, toasters, mixmasters, silverware, bicycles and hundreds of other desirable things. Other packages carry announcements of contests run in conjunction with other forms of advertising for which you must have a wrapper or box-top to enter the competition. Still other packages are premiums in themselves, printed with full color cut-out toys for the kids. This technique is being used widely today in the cereal field. Variations which

The series of nine paperboard cut-out circus characters are Post's first postwar enclosure premium. Cereal cartons containing the premiums feature a barker-proclaimed message about the circus on front panel. Toy premiums are illustrated on the side. Such premium promotions can be used frequently for cereals which are quick-turnover items and sold in very large volume

also might be regarded as premiums affecting packaging are such offers as "one-cent" sales, combination sales of two products at a bargain price over a limited time.

Premium Practice and Business Promotion magazine estimates that in the last prewar year the wholesale value of premiums offered by American industry was $500,000,000 and predicts this figure will reach a billion.

Companies committed to long-range programs continued premium advertising right through the war, although at times it was pretty tough to get premium merchandise. Others, resuming premiums now, gave them up when products were scarce and it was a matter of supplying demand, rather than selling.

Methods used in premium selling vary widely from the self-liquidating type (the box-top-and-coin offer—so-called because it is said to pay for itself) to the coupon redemption plans in which the consumer saves coupons for a premium which he selects from a catalog and may either send for the premium by mail or select it in a premium store. The Colgate-Palmolive-Peet Co. operates about 50 such premium stores in leading cities throughout the country, one of which in New Orleans employs 14 full-time clerks to handle this trade.

But no matter what the method, the use of premiums usually presupposes a branded package, whether it is an introductory test offer over the radio, in newspaper or magazine advertising, a contest that requires a soap wrapper with an entry to write "I like x's soap because....." in 25 words, or is a consistent premium campaign advertised on the package itself.

In fact, the first commercial premium offered in 1851, consisting of a "panel picture" printed in full color, was given free by Benjamin T. Babbitt, founder of the present B. T. Babbitt Co., makers of Bab-O, to all purchasers of Babbitt's Best Soap who sent in 25 wrappers. Babbitt decided that to break the resistance to his "new fangled" idea of packaged soap, he would give away something to get people to try it. Before that time, soap had been sold by the pound cut from long bars by the storekeeper. The Babbitt Co. is still one of the most consistent users of special offers.

Premium advertising was given full recognition as one of the established branches of advertising in 1928 when the Premium Advertising Assn. of America, Inc., was unanimously elected a departmental member of the Advertising Federation of America. This action put the use of premiums on the same ethical, economic and legal plane as magazine, newspaper, radio, billboard, direct mail and other forms of advertising, entitled to the same consideration and protection.

Successful premium promotion in the packaged goods field depends on four essential principles: (1) suitability of product to this type of promotion; (2) correct selection of the premiums offered; (3) proper dissemination of information about the premium offer; (4) dealer cooperation.

Successful premium selection

In general, the most successful application of the use of premiums in the packaged-goods field is for cereals, flour, soaps, cleansers, canned milk—quick-turnover items in the grocery store where there must be consis-

tent inducements to maintain brand loyalty and to win new users—also for such items as cigarettes and dentifrices, where competitive selling problems are similar. Premiums are not advisable for items of infrequent purchase or for such proprietary products as a cold remedy which a person buys for relief and selects because he has faith in it. In such cases, the purchaser is not concerned whether it carries a coupon which will help Junior get a bicycle or a box-top-and-coin offer that will bring him an automatic pencil.

Many sources are available to assist the packager in the selection of successful premiums. *Premium Practice and Business Promotion* magazine is devoted exclusively to the reporting of current news on trends in various types of offers and articles on successful campaigns. The Duane Jones Co., an advertising agency which specializes in premium promotions of the box-and-coin or self-liquidating type, has published a "premium yardstick" which lists 13 requirements which are important to a successful premium. The Reuben H. Donnelley Corp., which specializes in handling the mailings on premiums, sampling and contests, has a

FRONT

Front panels of three General Mills packages, two of which call attention to Disney comic books and Atomic-bomb rings for a coin and box-top. The Wheaties package has no premium offer on the face, but reverse panel and side shown below tell how to make a "Hopper the Bunny" mask out of carton. Two Kellogg packages have premium inserts of comic buttons and bird pictures as well as coin and box-top offers on same packages. All-Bran package has offer on side panel.

BACK

Backs of same packages illustrated above. Cheerios and Kix packages show how coin-and-box-top offers are dramatized on back panel. The other packages indicate the trend toward using the package itself as a premium, presenting children's cut-outs, Superman comic strips and household hints for Mom that she can clip from the carton and file away in a useful scrapbook.

Betty Crocker's cereal tray becomes an over-the-counter premium without the bother of coins and box-tops. Cartons are printed in a series of cut-outs which can be made into "Model City."

Hudson Pulp and Paper Corp. promotes a coin-and-box-top offer on one side of a carton of Leading Lady facial tissues—a reproduction of a cameo brooch which was worn by Carol Landis in the motion picture, "A Scandal in Paris."

special method of "rating the premium" to insure the selection or creation of a successful premium. To serve companies which prefer to offer coupons on the package or coupon inserts, there are organizations like the Premium Service Co., which takes complete charge of publishing premium catalogs, stocking the premium merchandise and redeeming coupons from consumers for its long list of clients whose premiums are listed in catalogs and selected on the basis of long-established experience in choosing suitable merchandise.

Promotion on the package

The value of a premium offer to the manufacturer is in direct proportion to the number of people who know about it and consistent users should employ every available means to acquaint the public with it.

Leading users of premiums in the packaged-goods field agree that the package surface is becoming a more and more important medium for the dissemination of such information no matter how widely the offer may be advertised in magazines, newspapers and radio.

Self-service technique is crowding point of sale material out of the retail store and a much greater burden is being placed on the package to do the selling job at the point of sale. The absence of clerk service also imposes a heavier selling job on the package. Any special selling advantage must therefore be incorporated in the package. It has been found, too, that grocers will give better position to packages with attractive premium offers and to premium selling that assures a profit but requires no extra work on the part of sales forces. Chain stores who were early users of premiums are also renewing the use of the package to offer premiums on their private brands in competition with the advertised brands.

Copy on packages for promoting premiums must be written with all the skill that ever went into the preparation of a magazine or newspaper advertisement. It must create a desire for the premium so strong that the consumer will pick your brand not only in preference to a brand without a premium, but in competition to a brand which carries a different premium. The

Colgate is one of large users of coupon-redemption plans promoted on the package. Coupons are always displayed on front of Octagon packages.

Back panels, and sometimes side panels, are devoted entirely to premium promotion of the merchandise you can get by saving the coupons.

The Babbitt company is a successful user of can bands for self-liquidating offers. Can bands may be changed frequently announcing different offers. They are easy to remove and mail, an advantage when the package is a fibre can and labels difficult to get off. Bands are also used on glass containers by Wilbert's No-Rub and Noxon.

copy must make it clear that the premium is a bargain, or is something the shopper cannot get anywhere else. It must convince her that the premium is easy to get. If it is a coupon offer, it must contain the legal statement that coupons are not redeemable in certain states, for there are still three or four states which do not permit coupon redemption. The package design must be flexible, so that it can be changed to accommodate new offerings from time to time. The box-top label or coupon must be easy to remove from the package. Labels on fibre cans, for example, are not easy to remove and mail. Care must be taken that the premium can actually be supplied exactly as described, because any disappointment causes ill will.

Colgate-Palmolive-Peet Co. puts its coupon offers for Octagon soap and Octagon soap powder right on the face of the package. This company, which spends upwards of a million on premium advertising in a normal year, believes that to get the most of the coupon offer the coupon and the story must be displayed where the housewife will see it quickly. In addition to this attention-getter illustrated on the face of the package, all Octagon packages carry back panels showing the kind of merchandise the consumer can get by saving coupons. Other firms use side panels and tops of the packages for the premium information in addition to attention-getters on the face.

Can bands

A very successful package technique is the premium can band used by the Babbitt Co. for Bab-O. This consists of a printed band wrapped around the can and over the company's regular label. This has the advantage of being easily removed since it is spot glued only where it joins around the can, is very inexpensive to apply and very easy for the consumer to mail. It can also be changed frequently to suit the requirements of each of the company's promotions—which they do

Borden's milk cans announce premiums on an arrow pointing to another part of the label where the coupon and promotional copy are located.

not call premiums, but "special offers." It is placed at the base of the can so that it does not obscure any of the essential identity or informative copy of the can label, which has also been designed so that it will not be covered by the special-offer band. The can band copy, artwork and layout are planned to give maximum eye appeal. This type of band-and-coin promotion, in conjunction with other advertising, has been a factor in Bab-o's rise to the point where it boasts the largest dollar-volume sales of any cleanser on the market, according to Duane Jones, dubbed "the box-top king" by fellow ad men. As head of an agency specializing in packaged goods advertising which has moved up from $1,200,000 billings to more than $12,000,000 in its five years of existence, Mr. Jones frequently uses premium offers as the trump trick to speed sales of

Kirkman soap has been a consistent premium advertiser for years. At present only announcement on packages is coupon printed on back.

Shredded Ralston packages are currently featuring a premium offer of silverware. Quaker Oats puts airplane pictures on Puffed Rice packages.

products for his 31 clients. Banding is also a convenient device for presenting a combination offer of two products together, calling attention to a one-cent sale or other inducement offer to introduce a new product or stimulate sales of an old one. When banding is not feasible, some companies have devised special combination packages for such offers.

Making the package a premium

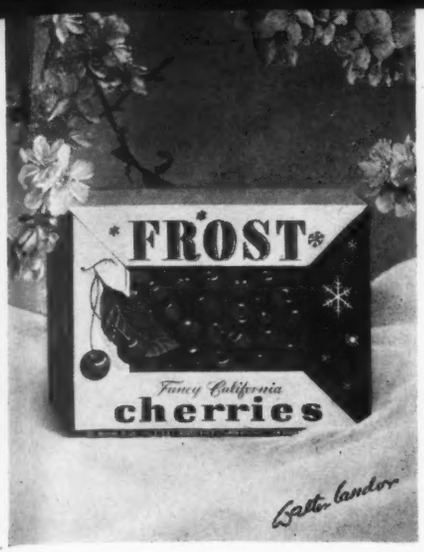
A technique in premium merchandising that is making news in the cereal field is the use of the package for paper cut-out toys. During April, General Foods is offering a free toy-circus premium in every package of Post's Grape-Nuts Flakes, Post's 40% Bran Flakes and Post's Corn Toasties. Each circus package is carrying full-color die-cut cards which may be made into familiar circus characters and the face of the package carries a printed blurb about the premium offer so that the shopper recognizes the circus package immediately. In addition to the special circus package, salesmen will supply grocers with display material and the premium offer is being supported by a vigorous advertising campaign in newspapers, magazines and radio. The Kellogg company is printing on its packages a series of cartoons and workable toys which the child can make easily, in addition to inserts and box-top and coin offers appealing to children printed on side panels. The Quaker Oats Co. features a series of cartoons on the back of its Muffets packages and a series of airplane pictures for the kids to collect on the back of the Puffed Wheat and Puffed Rice packages.

On the West Coast, General Mills is featuring on the Betty Crocker Cereal Tray (a combination of individual servings of Wheaties, Cheerios and Kix) a "Model City," which is a cut-out printed on the tray's outer carton as well as on the cereal packages it contains. In effect, the company states, this "is an over-the-counter premium without the bother of sending money or box-tops."

A city block showing store fronts and other buildings is printed on the outer carton. Roofs for these buildings plus fences, awnings, automobiles, etc., are pictured on the Kix and Cheerios 1-oz. packages inside and individual houses are on the Wheaties packages. The complete "Model City" set, made up of six different city blocks, contains 24 modern business buildings with roofs, 24 complete four-sided houses, 24 automobiles and trucks, 12 sheds and many fences, signboards and awnings—over 200 pieces in all. With each purchase of a Betty Crocker Cereal Tray, a child may receive one city block of the Model City, ready to cut out. All six parts of the set are being offered simultaneously and each carton is numbered. The set is in full color and each piece stands by itself. The Model City packages were tested with a large representative sample of children, who found it easy to cut out and assemble. The packages are expected to have national distribution by summer.

Package costs

Prospective users of premiums are interested in knowing what quantity of packages are required before it is feasible to print informative data about the premium offer on the package, or to change the package surface. There is no definite answer to this. Companies which use premiums widely study this problem very objectively to determine the estimated market. On leading items, particularly in the cereal field, when millions of packages are sold in one month or over a six-week period, printing plates may be changed frequently without being too costly. Items which are slower movers can be changed less often if packaging costs are to be kept at a reasonable figure. Companies which print their own cartons or labels can afford to change them more frequently than those which buy from outside sources and are dependent upon larger inventories. If you are planning to print premium information on your package, you must first determine the purpose of the premium. If it is an introductory offer or sampling, you may not wish to use a special package. If it is a consistent, long-range program, you must estimate the number of (*Continued on page 194*)



This month's COVER PACKAGE*

No. 4 of a series

THE PROBLEM: To develop a frozen food package to compete on the strength of its design in an increasingly competitive market. The package is to have an aluminum foil overwrap, on which the design is to be printed in color by rotogravure. The design must be adaptable to a variety of fruits and vegetables selling under the "Frost" brand. It must facilitate quick identification of variety, to combat the unfavorable store display conditions still prevailing in today's frozen food departments. It should be bold enough to attract attention in the confusion of competitive brands and should make an effective display pattern when stacked in mass. But while doing an aggressive job of selling in the store, the package also should have a tempting, quality look when on its own in the consumer's refrigerator or freezer at home. It should emphasize "freshness" of the contents.

THE SOLUTION: Making use of the fine printing qualities of foil, the designer has created the illusion of a window package and in color photo reproduction has represented the product far more temptingly than it would appear, in its frozen state, through a window. The sprig of fresh-off-the-tree cherries, appearing as if placed on top of the package, lends the desired atmosphere of freshness without being misleading. In a simple, graphic manner, this package tells the whole, powerful sales story of frozen fruits: picked off the tree at the peak of goodness, protectively packaged and preserved by freezing. From whatever side of the cabinet the shopper views the package, she cannot mistake the identity of the contents. The illusion of a cellophane window is heightened by the wide, beveled frame, drawing the eye right into the center of the mouthwatering illustration, calculated to create an impulse purchase. The foil is not printed over all; it shows up in sufficient areas to be recognized for its protective qualities. Note the background for the product name can be varied in color for easy identification of various fruits and vegetables.

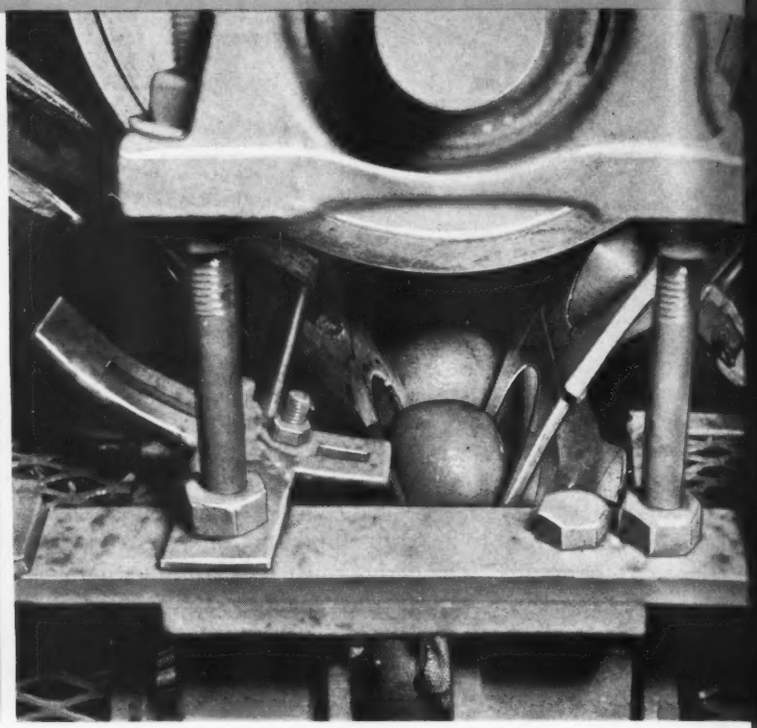
THE DESIGNER: Walter Landor, who maintains offices in San Francisco, and Los Angeles, was educated in London, Munich and Paris and was co-founder of the first industrial design organization in London, where his name was linked with design developments in plastics and packaging. In the last seven years he has become a leading exponent of package design on the West Coast, serving clients from Seattle to Los Angeles. Prize-winning package designs for such firms as S & W and Spice Islands and major styling projects for Pabco, Safeway Stores and the dried fruit industry have won him a national reputuation. His understanding of merchandising problems is applied to a variety of work carried on by Walter Landor & Associates, including the design of complete stores, exhibits and products. His Cover Package reflects his ability to harness sensitive design to aggressive selling.

WALTER LANDOR

*** Brand and company names used in this hypothetical design are purely fictitious; the design remains the property of the designer who conceived it for this cover illustration. Any resemblance to any existing package is purely coincidental.**

Oranges roll into an automatic machine and roll out

1. Cleaned and waxed oranges roll down chutes to cups in feeding cylinder which delivers them five at a time to the packaging rolls below. Note the steel fingers in the foreground stretching Pliofilm sheet as it feeds into the rolls.



2. Oranges drop from feeding cylinder, above, into cups over each of which Pliofilm has been tightly stretched. As continuous rolls revolve together and cups close, film is stretched around fruit, two sheets are heat-sealed where they meet and a wire cuts off surplus film, leaving "fin" around circumference

SECOND SKIN

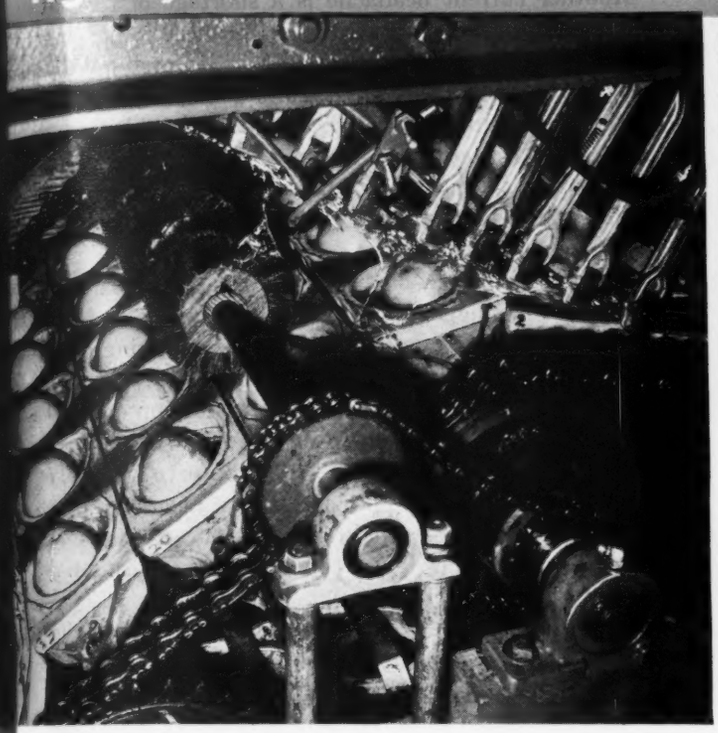
Florida tests ingenious machine that will stretch-wrap and seal oranges in thin Pliofilm

The Florida citrus industry, plagued this year with an unusually prevalent decay potential in oranges, is eyeing with interest and hope experiments now being conducted at Oak Hill, Fla., with stretch-wrapping of oranges in transparent film. At the packing house in this tiny Florida hamlet is an experimental machine which automatically stretch-wraps in Pliofilm from 200 to 800 fruit per minute. The machine is the invention of W. S. Cloud, of the Curtiss Candy Co., Chicago, and it is now in its second year of experimental operation.

Oranges are fed into the machine by an endless belt fitted with lugs so that oranges five abreast reach the top together and are chuted by gravity into a feeder roller (Fig. 1). The roller revolves an eighth turn, accepts a new supply of oranges and in time the ones originally received are dropped into apertures between revolving cup drums (Fig. 2). Pliofilm stretched two ways to four times its original size plays over these revolving drums and is further stretched to accommodate the oranges. The drum rollers come together, press the oranges into the Pliofilm and make a welded seal around each of the fruit. The oranges, thus sealed, enter another roller and are cut apart by red hot wires (Fig. 3). They pass from there onto another belt, through a heated chamber (Fig. 4) and on to the packers and graders. Any oranges not properly sealed will drop into a trough and pass into reject bins, from which they can be routed again through the machine. The heat chamber serves two purposes: to nullify a slight tackiness in the heat-treated Pliofilm and to set the film, thus preventing undue shrinkage.

As the Pliofilm in 16½-in. rolls is fed to the cup drums, steel fingers spaced an inch apart (Fig. 1) grasp the edges of the sheet and gradually stretch the film wider and wider until it is twice its original width.

tightly sealed in Pliofilm, as fast as 800 a minute



3. Here the wrapped oranges emerge from the sealing operation and the film trim is lifted off. Note wires around the cups, which do the cutting. The Pliofilm shrinks snugly around the fruit. A brush is used to help in removal of any surplus film, leaving the fruit neatly packaged.

4. As they leave the machine, the wrapped oranges move on a roller conveyor, through a heated chamber and to an endless belt which carries them to packing bins. Fruit which has not been properly sealed drops into a trough and passes along to reject bins.

ALL PHOTOS COURTESY GOODYEAR TIRE & RUBBER CO.

This is the first stretch. When widening has been completed, other fingers then stretch the film lengthwise, doubling its original length and forming the second of the two-way stretches. This creates not only a two-way stretch, but also makes the film four times its original size and one-quarter of its original gauge, which was 0.0012 in. Insertion of the fruit into the receiving cups completes the stretch to six times its original size. Stretching is important not only because it forms a tight, form-fitting, wrinkle-free wrap, but because it makes for economical use of the film and reduces thickness to the point where the fruit will "breathe" readily.

Occasionally Mr. Cloud and his staff of co-workers make changes or improvements in the machine. Recently a brush was added (Fig. 3) which revolves against the wrapped fruit and removes a portion of the excess film not clipped sufficiently by the heated wires. It had been found that on many of the oranges an excessive amount of film was left. This made them appear shaggy and poorly wrapped and lessened eye appeal. This and other difficulties are rapidly being eliminated.

There are still many headaches other than those generated from mechanical difficulties facing Inventor Cloud, however. One is the condition of Florida fruit this season. Due to a mid-winter freeze, oranges are more than usually subject to rot, decay and general deterioration caused by an infestation of bacteria and/or fungi. These "bugs" sometimes remain on some fruit

5. Girls pack the Pliofilm-protected fruit into conventional orange crates for shipment. Without refrigeration or further protection, good oranges thus wrapped will keep for three months, as against three weeks for unwrapped oranges.

Preparation for packaging

6. First step in preparation of oranges for packaging is cleansing by soap wash and water spray shower. Oranges move continuously on conveyors.

7. From the bath, oranges move to endless belt where they are given a dip bath in a wax solution. Hal Allen, manager of plant, looks on.

8. Sorted on grading belts, the oranges move onto a lugged incline where they are lined up ready for packaging machine and final culling.

even after it has been subjected to the most thorough scrubbing treatment, rendering the wrap impotent.

Another current headache is a shortage of fruit at the Oak Hill packing plant, due to the freeze, which prevents the machine from operating at its best speed—estimated by Cloud as 800 per minute—and reduces operation to the much slower speed of 200 per minute.

Mr. Cloud reports the machine capable of wrapping more than 1,000 cases of fruit per day. Shortage of supply has so far limited production to only a fraction of the machine's capacity.

So far the majority of the film-wrapped fruit shipped North has commanded a premium ranging up to $1.50 per box, depending on its condition. Wrapping costs on the present experimental basis are high, but Mr. Cloud estimates that when a daily production of 1,000 cases is reached, costs will probably drop to not more than 20 cents per case and will thus compare favorably to the cost of hand-wrapping fruit. In true mass production, costs would undoubtedly be reduced even more and, all factors considered, could result in substantial savings to the packer.

The secret of the machine's greatest value and the film's protection is that, due to the unusual physical properties of Pliofilm, the oranges are enabled to breathe air, exhale carbon dioxide and at the same time resist loss of moisture. This is said to keep the fruit—if the fruit itself is good—for long periods of time in good condition without loss of weight or appearance. In experiments conducted at the University of Florida, disease-free fruit protected by Pliofilm has been kept as long as three months without refrigeraton, under normal conditions of temperature and humidity. The average life of the unwrapped fruit has been found to be not more than three weeks and often less.

Records of shipments show very definitely that Pliofilm-wrapped fruit has commanded a higher price, more than covering even the present high experimental cost. Fruit treated this way was sold by one chain store in a test market and, according to Mr. Cloud, was so successful that the company offered a premium of 30 cents per case for citrus packed this way. The additional cost would not be passed along to the grocery chain's customers by way of increased retail prices, but would be absorbed by the company, its officials feeling that the reduction of spoilage would more than make up for the higher initial price paid for the fruit.

Those connected with the development stress that the machine is not ready yet to be manufactured and sold to fruit packers. It is too early yet to form a final opinion as to its practicality or whether there will be a market large enough to make production profitable to a manufacturing concern. It may be applicable to products other than citrus fruits.

Three main interests other than fruit growers and packers are represented in the development. They are the Curtiss Candy Co.; Stokes & Smith, package machine manufacturers who hold several basic patents and are considering manufacture of the machine, and Goodyear Tire & Rubber Co., maker of Pliofilm.

RESEAL CAN

Here at last—for dried food products and drugs—a reclosable metal container with a lugged lid, a moisture-resistant gasket and an inner tamperproof paper seal

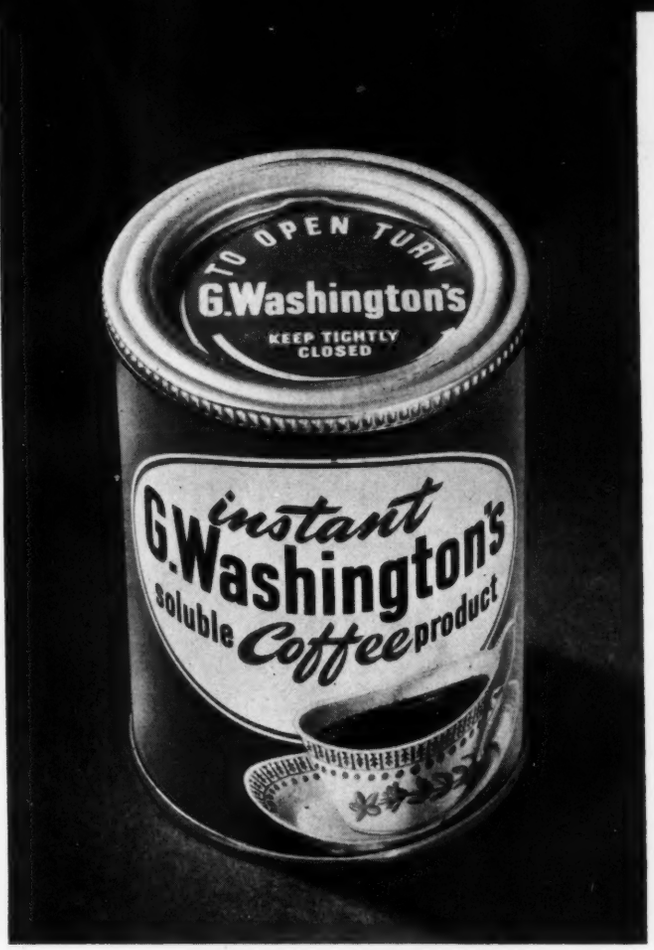
First to adopt an entirely new type of can with a resealable closure is American Home Foods, Inc., for G. Washington instant soluble coffee.

This new container, now appearing in test areas in the East, is said to provide continuous water-vapor resistance even after the can is opened by the consumer. It is tamperproof, but opens easily and may be resealed tightly. Offered now for soluble coffee in a size about $3^1/_2$ in. deep and $2^1/_2$ in. in diameter, this type of container, the makers say, may be made eventually in various sizes for a number of dried food and drug products.

The principle of the closure is an interrupted thread incorporated in a ring that is double seamed around the inside top of the can. This ring protrudes about a quarter of an inch around the inside edge of the top of the can body. The water-vapor-resistant seal is achieved by a ring gasket which is in the indented outer edge of the cover where it fits over the top of the can body. The ring gasket is made of paper impregnated with a wax and synthetic mixture so that each time the cover is replaced on the can, then turned slightly on the interrupted threads, the can is resealed. The gasket also cushions and helps to lock the cover into place.

Inside, and a slight fraction of an inch below this cover, when the can is first opened, is a drum-head paper seal incorporated by heat-sealing a disc of thermoplastically coated super-calendered sulphite paper to the underside of the ring, prior to the seaming of the ring to the top of the can. The primary purpose of this inner seal is to make the package tamperproof, but because the paper is specially treated, it also provides additional moisture protection until it is broken by the consumer, it is said. This seal may be easily broken with a spoon or by slight pressure.

The cans are filled from the bottom, may be handled on previously used filling equipment, but require the installation of a standard can end-seamer for completing the package. They are lithographed in color and offer ample label display surface, are light in weight and are said to be easy to stack and to handle.



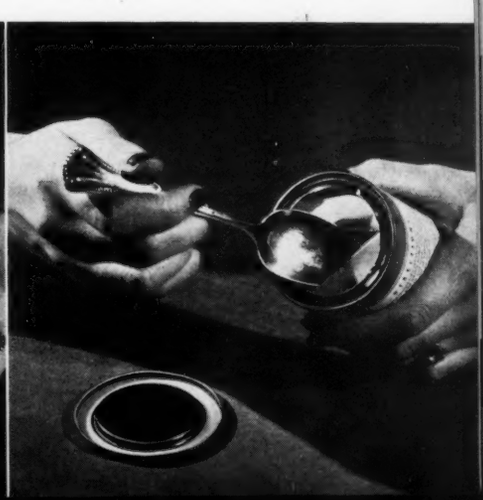
New resealable can for G. Washington soluble coffee is said to offer greater label display area, is light in weight and easy to handle.

CREDIT: *Resealable can by American Can Co., New York.*

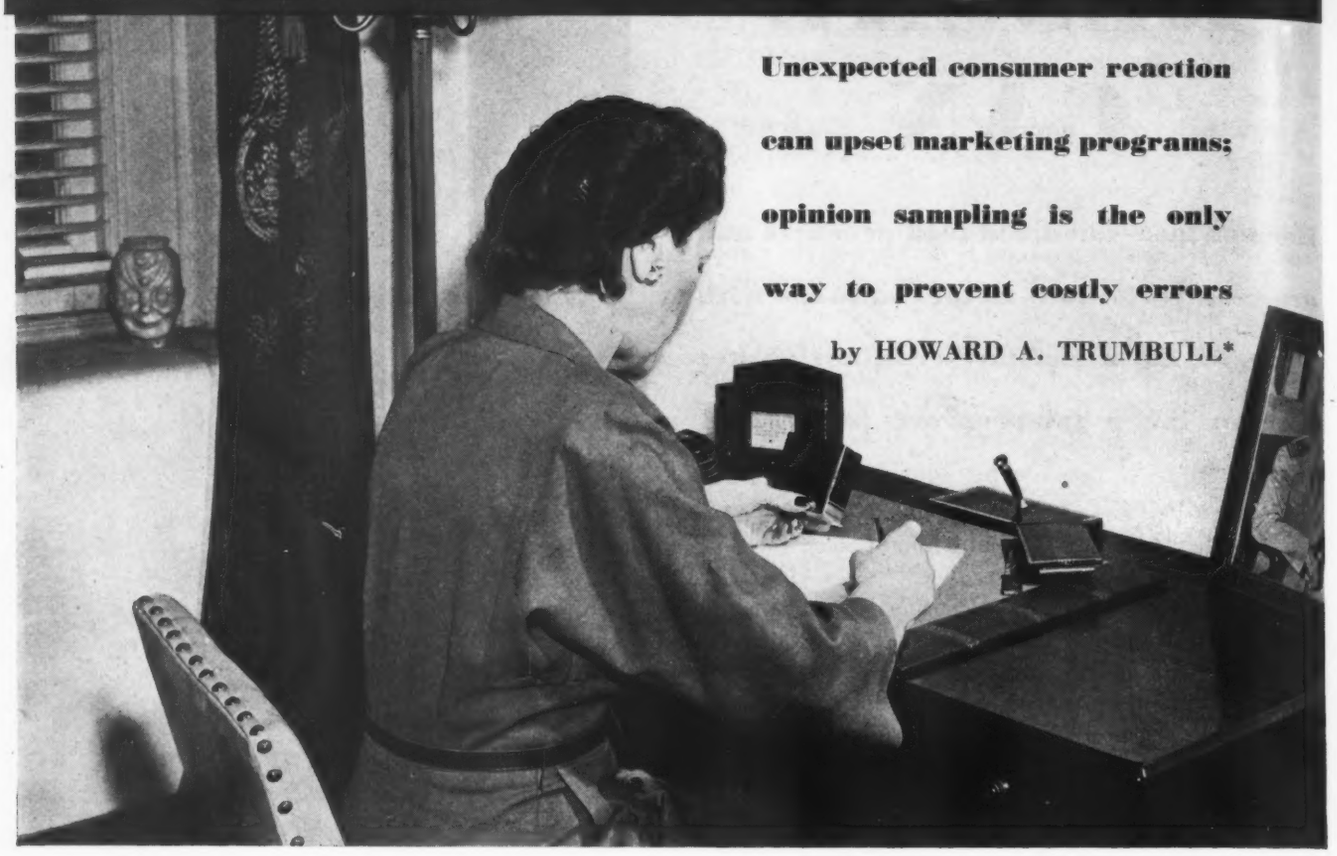
Slight twist opens the reseal can.

Gasket inside lid gives the protection.

Tamperproof seal is easily torn.



Dear Mr. Packager...



Unexpected consumer reaction can upset marketing programs; opinion sampling is the only way to prevent costly errors

by HOWARD A. TRUMBULL*

Given a chance to study and use a proposed package in the privacy of her home, the average housewife doesn't hesitate to tell the packager what she thinks of it. Wise packagers are guided by her views.

American business, narrowly perhaps, escaped one of the most drastic of all wartime restrictions. Had the demands of war made it mandatory for industry to sacrifice its individual packages it would have retarded our reconversion to consumer goods production by months or even years. Because of the resourcefulness of the packaging industry, most manufacturers and packers were enabled to continue marketing their products in convenient consumer packages. Had a backward step into the dark ages of cracker-barrel distribution occurred, it would have cost industry an appalling amount of money.

Correct packaging is the keystone of the arch connecting production and distribution. Distinction of package design and label in the case of many products is the hallmark by which consumer identification is expedited. Correct packaging performs many functions in addition to serving merely as a container for the distribution of the product. The ever-widening field of distribution throughout our country and the world imposes many far reaching responsibilities upon those in industry charged with the vital tasks of selecting the proper package for their product.

The manufacture of packages in itself accounts for an impressive percentage of the nation's total volume of business. It is big business. Yet this volume is but an extremely small proportion of the dollar volume accounted for by the *products* which are packaged.

Recent figures from one of the large package manufacturers indicate that its packages alone took somewhere over 20% of the nation's consumer goods dollar volume to market and there were many fields which this company did not enter. Multiply this by the business done by a number of even larger package manufacturers and it is safe to assume that much better than 70% of the nation's total consumer business is influenced or touched in some way by the package business.

The selection of the correct packaging material is an art and, as in the case of all arts, there are but few fundamental rules. The rest depends upon painstaking examination and diligent exploration to arrive at the correct answer. Granting that the first and prime function of a package is to protect and transport a product, there are none-the-less a multiplicity of other factors which must be considered if a final decision is to produce absolutely the best package. Many of these factors will, of course, be considered from the scientific side as well as from the more nebulous but equally important realm of the art of packaging.

Weight is doubly important because it can add to the cost of handling on the packaging line as well as in dis-

* General Manager, National Family Opinion, Toledo, Ohio.

tribution. It can also exert a detrimental influence upon the retailers' and consumers' points of view.

Durability is another classification of dual importance. Packages must be made of such materials as to stand up satisfactorily on the packaging lines and through the handling they will receive within the packing plant, in transit and in retail outlets. The most suitable package will remain serviceable until the product is in the consumer's home.

Size of opening and type of closure can be tremendously important both in packing the product and in use by the consumer.

All of these basic factors and many more must be checked and thoroughly evaluated in arriving at the perfect package inasmuch as packages today carry such a large responsibility in the movement of merchandise to consumers.

Most producers of packaged merchandise for consumer use recognize the vital importance of repeat sales. Consumer satisfaction with these products can be seriously affected by a package made of a material or with a design which makes it difficult for the consumer to use the product or forces her to be wasteful because the package has not protected the product or does not permit complete removal. The files of package manufacturers contain many examples of how poor packaging has contributed to lost sales of merchandise due to unexpected consumer reactions.

The selection of the proper materials, designs and number of sizes is a vital decision and should be participated in not alone by the production and plant people, but—because packaging so distinctly affects dealer and consumer satisfaction—all discussions on this subject should be shared by the executives in charge of distribution, sales, advertising and merchandising. Much can be learned by thoroughly investigating retailer and consumer opinions as a guide for reaching the preferred package for any consumer product.

Tradition has dictated certain packaging materials for certain fields, but these traditions are becoming antiquated as new packaging materials become available and more highly developed to broaden their application to an ever increasing list of products for which they will perform satisfactorily.

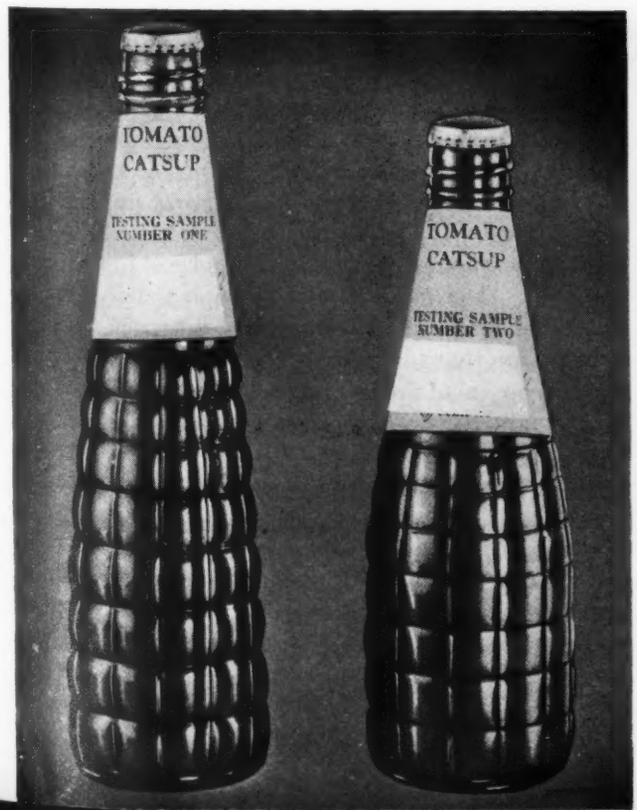
Traditionally, paper in its various forms has been suitable for cereals, baked goods and other dry, bulky and lightweight products. With the advent of various cellulose wrappings and because of the increasing number of consumers who buy with their eyes, an increasingly greater percentage of these products are now deserting paper for the newer materials that bring the advantage of visibility to them.

Metal containers have always accounted for an impressive percentage of the packaging volume. The advent of resealable metal containers and this industry's ability to form its packages so as to conserve space in comparison with traditionally cylindrical cans permitted the metal container producers to broaden their scope considerably.

Glass, the third large-volume basic package material, has increased its potential substantially in this generation because of the improvements within the industry as well as through producing a lighter weight and stronger package at less cost.

It may be interesting to cite some typical examples of the market and consumer research so effectively em-

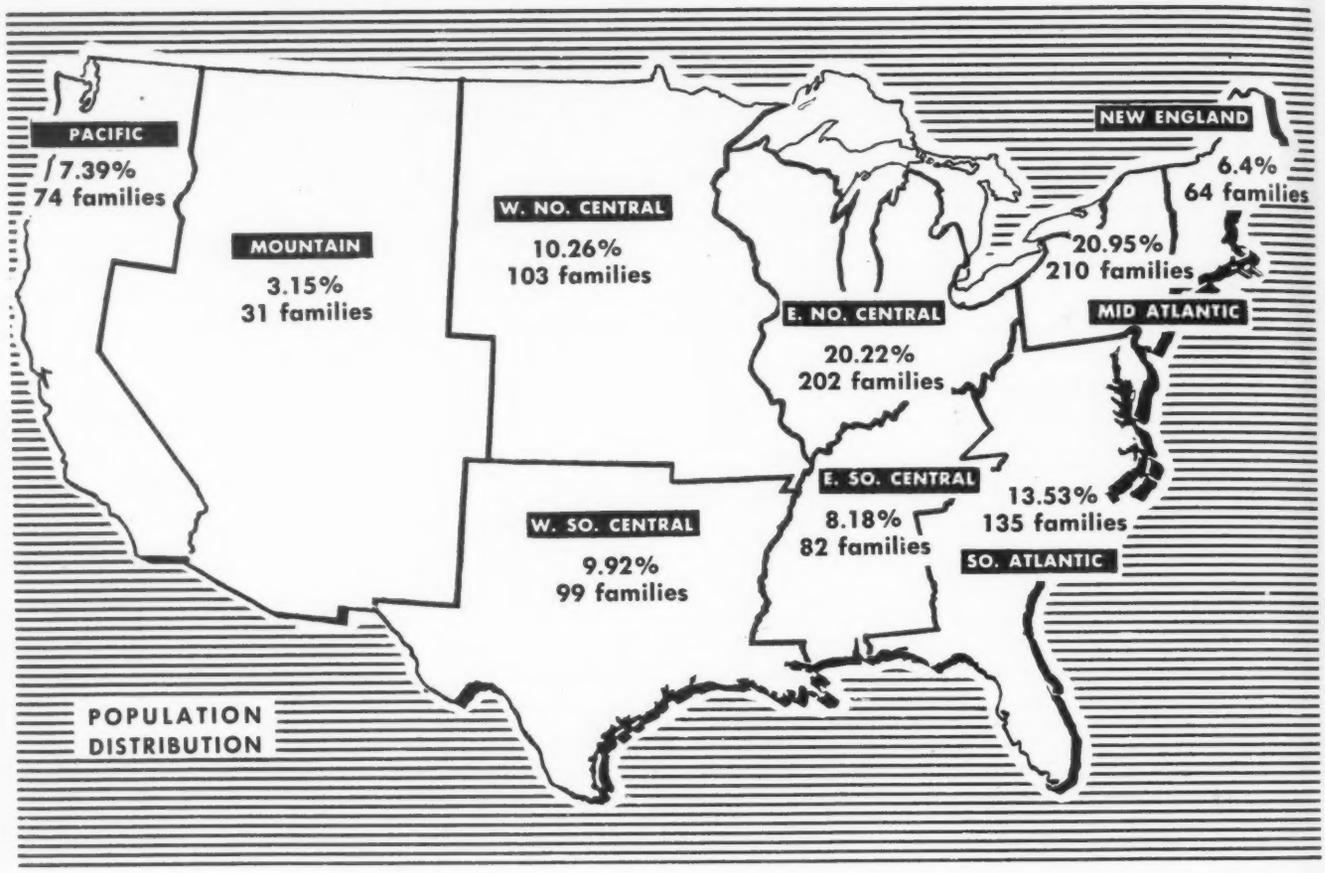
Homemakers upset catsup makers' expectations by expressing a preference for the shorter bottle; the entire industry thereupon swung to the short bottle. The change reduced packaging costs 10%.



Lipton's dehydrated soups are marketed in foil envelopes and miniature metal cans. The company's market research and sales departments are checking reaction to determine which is preferred.

HOW A POLL OF CONSUMER OPINION CUTS A CROSS-SECTION OF THE NATION

(Typical panel of 1,000 families)



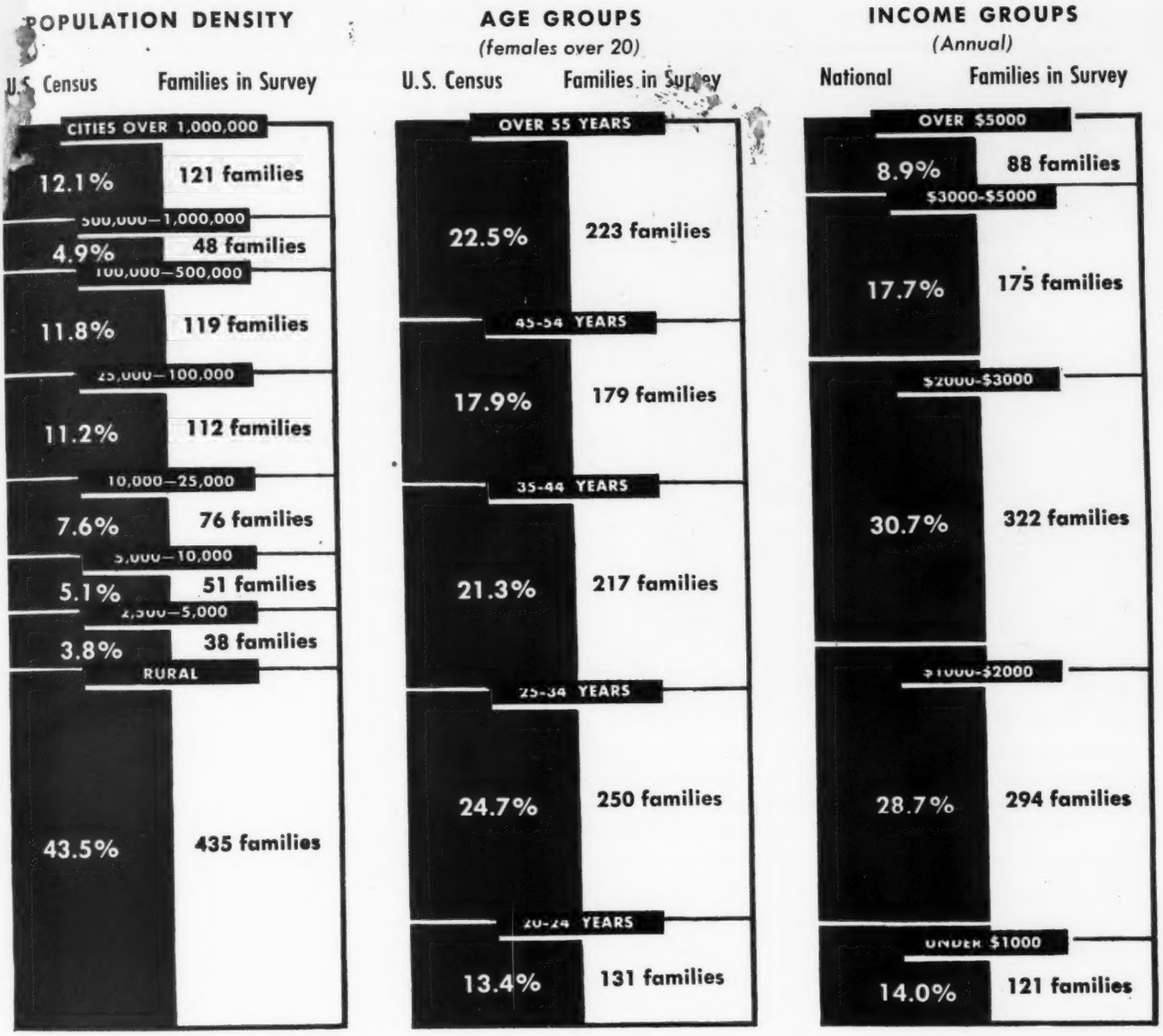
Map and bar charts (at right) show how carefully a nationwide consumer jury of 1,000 families is chosen for a typical package pre-test. The panel is divided geographically in exact conformance to U. S. Census figures. Other cross sections, also conforming to government statistics, are cut as to population density, age group and income group.

ployed in the advancement of some package changes.

One of the leading packers of a household product had used a particular type of cap on the container's rectangular "F style" can in which its product had been marketed since its introduction. The manufacturer of a plastic screw cap felt the use of his style of closure would be a valuable factor in creating greater consumer satisfaction. A blind test was made of consumers who received two full sized samples of the product in identical containers except for the difference in the cap. The investigation was so worded that the consumers being interviewed were not conscious of the purpose of the investigation. A tabulation of their experiences conclusively proved their preferences for the molded cap. This packer was thereby assured increased consumer satisfaction by making this change. This survey also developed consumer preferences for retail outlets for the product and approximately 100 additional uses to which housewives put the item were revealed to the packer.

There is probably no more easily identifiable package for food than the catsup bottle. One of the largest glass container manufacturers was desirous of shortening the height of this bottle approximately 10% as a means of saving substantial weight and cost in the package itself. The more modern, compact design in refrigerators, which places a premium on space, made it seem certain that this new package would receive spontaneous approval from the packers of this product. Surprisingly, catsup packers were almost unanimous in opposing the change. They felt the housewife would not buy the new, shorter bottle because it looked smaller.

Through painstaking and widespread consumer investigation conducted by mail, in addition to simultaneously offering the product for sale in certain controlled retail stores in both types of containers, it was



established that consumers not only would buy their catsup in the new package but would welcome such a change. This industry, reluctant as it was to break tradition, nevertheless was quick to realize the increased sales advantage resulting from the consumer good will which it could expect on the basis of its market and consumer investigations.

Tradition and a slight cost advantage again played an important part in keeping corn syrup in the metal container in which it had been packaged since its inception. The very nature of this product, which was pleasing to the eye, seemed to recommend the advantage of transparent packaging. None of the packers were at all receptive to a change in their package which had been accepted by consumers for so many years. A careful and widespread check of consumers who were supplied syrup in both packages proved beyond any doubt the overwhelming preference for a glass bottle.

The new package permitted easy pouring of this highly viscous product. A positive reseal was accomplished by the screw cap and, most importantly, consumers evidenced a desire to put the product on the table in its original package. This one advantage alone was destined to increase sales substantially, because when any product is so packaged that it reaches the table in its original container more of that product will be consumed.

All of this was ascertained by consumer check-ups with actual samples of the product in both the traditional package and the one under consideration many months before the change was made by the packer.

Consumers dictate package changes and there are many products in which consumer education about the product itself brings demands for improved packaging and, incidentally, affords the packer of the product who recognizes these demands and makes the changes added

Resealable glass jar for cigars was functionally a perfect package. However, smokers wouldn't break with tradition and insisted upon the retention of the familiar open-top wooden box.

sales and advertising ammunition for his product.

Typical of these products is coffee, which has run the entire gamut in its use of various packaging materials. Original distribution of this product was in the whole bean, distributed in bulk, barrels or bags and ground by the retailer or consumer.

In line with the trend toward pre-packaging of merchandise, roasters adopted paper bags, many of which were glassine lined. This was quite a revolutionary step. The metal container people were quick to recognize the potential volume and introduced a slip cover metal container.

Then early in the 20's, both the metal container and glass container manufacturers began experimenting with vacuumizing processes. Far-reaching laboratory research indicated that this product could be delivered in much better condition if the air were kept away from the highly volatile oils. A few years later a substantial portion of the nation's coffee was delivered in a fresher state because of this great forward step in packaging.

The glass package with its screw cap was reputed to offer even greater advantage than the vacuum can because of its ability to be resealed. Within recent months this package has been still further improved and is now being offered with a unique snap-on cap which simply is pried off. All of these changes were made only after the most extensive and painstaking consumer research. Any packer contemplating the introduction of a new package or, more importantly, changing an established one is wise to pre-test the new package among consumers in order to prove its acceptability and bring out into the open any consumer objections that may have escaped his technical staff.

Consumer habits are unpredictable. Tradition and habit may or may not build up unpenetrable walls of resistance to new products or packages. Typical of this is an attempted change in the packaging of cigars, the majority of which have been offered for sale in open top wooden boxes almost since cigars were first manufactured. Individual wrapping in transparent cellophane was a great forward stride Then the manufacturer of an opaque wrapping, which according to laboratory tests preserved the moisture content of the product much better than the cellophane, spent considerable time and money in promoting this new and alleged revolutionary method of packing.

The technical laboratory studies of this new wrapping seemed to promise a spontaneous and overwhelming consumer acceptance.

In actual practice when the cigars were offered for sale it was discovered that smokers insist on seeing the color of the cigars before they buy. Visibility in this instance was more important than a controlled moisture content. No doubt considerable money was spent on this ill-fated promotion, most of which could have been saved through preliminary market and consumer investigation.

In conducting market and consumer investigations it is unwise to limit them to any one particular group or area. A glass manufacturer recognizing the vital importance of controlled humidity in cigars developed a glass jar to hold 50 cigars complete with a resealable lid. Functionally this package approached perfection. For good reasons it was tried out exclusively in just one market and it met with instantaneous approval.

The cigar manufacturer who was packing in this package was elated with its success, but when this cigar as well as additional brands were offered in other markets it was almost a complete failure. Research in the new markets conclusively showed that habit proved its downfall. Cigar smokers in the first and successful market had been educated to buy their cigars standing on end in a rectangular container, because the leading brand had been so packaged for years. In other markets where this brand was unknown, cigar smokers insisted on continuing to scoop their cigars from an open top box rather than reach in and pick their cigars from the opening of a glass jar. It was decided that the task of re-educating cigar smokers was too big a job for the resultant reward in volume of business this product offered.

Market and consumer research combines, as does packaging, both science and art. It is a highly developed science to the extent that the market research man has established through years of experience certain fundamental procedures necessary to obtain reliable, unimpeachable facts. Leading the list of these procedures are such things as distribution of interviews by

areas, age and income. The more general the consumption of the product, the less highly selective need be the interviews.

Certainly it is a fallacy to assume because people in New England express themselves in one way that the people in the Deep South or Far West will think the same. Years of experience prove that people in various age and income groups, families with and without children, farmers and small town people versus those in metropolitan cities all look up and expect various qualities in the same merchandise they buy.

It is for this reason that in one organization, for example, each of the consultant families is carefully screened and a great deal of information obtained about their family pattern before it can be accepted for membership in one of the panels of 1000 families. Consultants' cooperation in testing merchandise and in expressing themselves regarding various services offered by industry is entirely voluntary and prompted by their desire to cooperate with industry in obtaining typical consumer reactions.

Because these families meticulously parallel population distribution in each of the nine geographical areas and duplicate the census insofar as type of community in which they live as well as in age and family groups, manufacturers are able to obtain accurate cross sections of consumer opinion from these consultant families.

Procedure is simplicity itself. The manufacturer simply furnishes 1,000 samples of each package, label or product on which he wishes to obtain consumer thinking. A questionnaire is prepared in cooperation with him which is designed to furnish unbiased answers to all his questions. These are mailed to one or more panels. The answers are tabulated and broken down so as to present not only the national picture but the difference in thinking between the nine geographical areas, as well as any possible difference in thinking between consultants living on farms and those in seven city sizes. They are still further broken down to show contrasts between the different age and income groups. Many reports are further developed to show the difference in thinking between families with children and those without children and also the influence of the husband's occupation upon family opinion.

This pre-testing is comparatively inexpensive and frequently results in saving considerable sums of money that otherwise would be spent in promotion destined to limited success because some fundamental consumer objections had been overlooked.

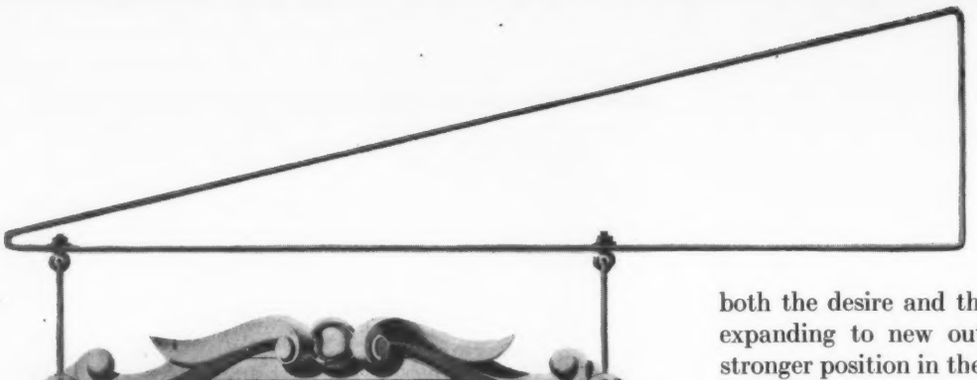
Thus the importance of market research in package design cannot be over-emphasized. Packaging, so frequently the cornerstone upon which sales volume rests, need no longer be dependent upon costly trial-and-error methods. Scientifically accurate methods of pretesting now eliminate much of the element of uncertainty formerly surrounding packaging presentations.

MR. TRUMBULL

THE AUTHOR

Prior to organizing National Family Opinion, Toledo, Ohio, in 1946, the author of this article was for 14 years in charge of sales promotion for the Owens-Illinois Glass Co., where he originated significant and effective methods of determining consumer acceptance for packages. The principles discussed here are applicable to any type of package.

Syrup makers doubted the advantages of jar over can, but a nationwide consumer survey impelled them to make the change. It turned out that housewives were attracted by the color of the syrup and liked to put the bottle directly on the table.



Meadow Gold hangs out a shield symbolically in this bracket sign for dealer use. This device, adapted from ancient heraldry, is the design motif which now links all Meadow Gold products.

20th Century Heraldry

Ancient device provides the modern connecting link in an integrated display and packaging plan for Meadow Gold by WILLIAM H. EAST, JR.*

A leading women's magazine is currently running an advertising campaign that emphasizes a characteristic female trait. "When a woman shops, she has a picture in mind. She buys household items piece by piece—matching as she goes along—until she achieves the desired, coordinated effect."

We at Meadow Gold have been following the same plan. We too have been shopping with a picture in mind. However, unlike the young woman who is buying things for the kitchen or living room, we have been buying a point-of-sale program for Meadow Gold products. And again, unlike the young lady in the advertisement, we have been able to buy a complete, integrated point-of-sale program after making only *one* basic purchase.

Meadow Gold is the trademark of Beatrice Foods—one of the nation's largest food distributors. Although the company has long been established as a leader in the food field, Meadow Gold was not only faced with the problem of holding its existing markets but also with both the desire and the necessity following the war of expanding to new outlets and ultimately securing a stronger position in the food field.

More than 50% of Meadow Gold's 1947 advertising appropriation is earmarked for point-of-sale advertising. We have always felt that our advertising program centers on displays with media advertising giving supplementary support. This theory is seconded by both our sales organization and our dealer outlets. Logically, then, it was necessary for us to develop a workable and complete point-of-sale program first and then re-tool our other forms of advertising to follow the same pattern. A year ago we started on this project.

The first step was the selection of a New York display consultant and producer capable not only of designing an effective point-of-sale program for us, but also of producing some of the displays. Early in 1946 the president of this organization and the members of his creative staff met with us to discuss the Meadow Gold program. To this meeting were brought all the displays that were then being used by Meadow Gold in our outlets—soda fountains, drug stores and grocery stores. Each individual piece was checked for the degree of dealer acceptance and the part the display was intended to play in the entire point-of-sale program.

This initial discussion highlighted several important points. Even though Meadow Gold had been using over a hundred-odd display pieces, the over-all program lacked a unity and character that it might easily have achieved: there was no recognizable continuity or relationship between units. It soon became obvious that an all-inclusive related program would have definite advantages. At this point, too, it became apparent that we should have to go to our dealers to learn the answers to three questions:

1. What do our dealers want in their display?
2. What are trends in point-of-sale material?

* Advertising Manager, Beatrice Foods Co., Chicago

3. Is a coordinated point-of-sale program practical and possible?

To take the dealer pulse, we decided to conduct a field survey. Several sets of pilot sketches and a carefully worded questionnaire were formulated for use in a field test which subsequently was conducted jointly by the display organization and ourselves. In some cases we supplemented our group with representatives of our sales force.

By the time the trip ended we had covered representative Meadow Gold outlets in a number of cities that we considered typical of our distribution. We had spoken with hundreds of dealers in soda fountains, drug stores, grocery stores and supermarkets. We found that these dealers had very definite preferences as to the types of displays they wanted in their stores. New trends were brought into sharp focus by our on-the-spot interviews. Dealers were in a strong financial position and in many instances were in the midst of an expansion program. And, most important, we were impressed with the fact that our point-of-sale operation could be improved by an over-all pattern and continuity.

Now we felt that we had the material and background to prepare a workable, integrated point-of-sale program. We knew that it was necessary to discard completely our old haphazard display program and begin anew. The green light was given to the display organization to proceed on a revision of our entire display set-up.

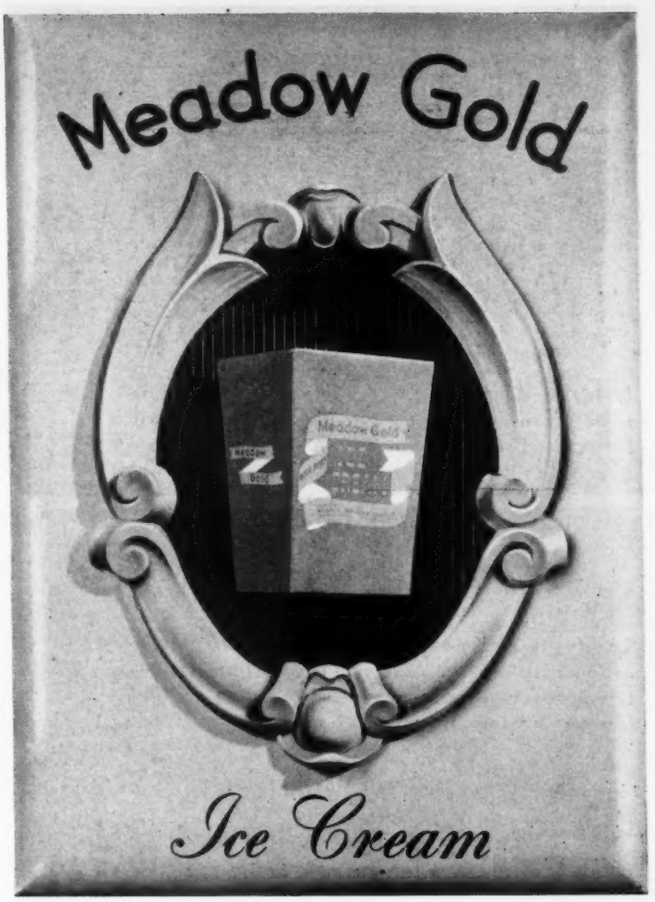
As a basis of operation they prepared an organization chart to show us how all the display elements are coordinated into one integrated program.

The principal visual element in this chart resembles a heraldic device that subsequently became the basic design pattern for use on display material to be used within the store, such as back-bar signs, flavor boards and menu cards; for outdoor bracket signs; for window and refrigerator decalcomanias. It became the motif for package designs, company stationery, truck decoration, dividend checks and lithographed recipe folders—a surprisingly wide number of applications.

The next logical step was the development of a basic pattern or logotype that would be ours alone and would immediately and forcefully register in the consumer's mind—"This is Meadow Gold Ice Cream."

We agreed that the basic pattern must be one that associated Meadow Gold ice cream with patrician quality and aristocracy. To achieve this effect, we adopted the motif shown here. From the Renaissance to the present day, in art and architecture, this design has symbolized luxury and fine living.

From this point on the Meadow Gold story mushroomed with controlled growth. After viewing the initial display designs we decided to use the versatility of our basic design character and extended it to our letterheads, checks, business cards, statements, labels, outdoor posters, our more than 1,800 trucks, media advertising and packages.

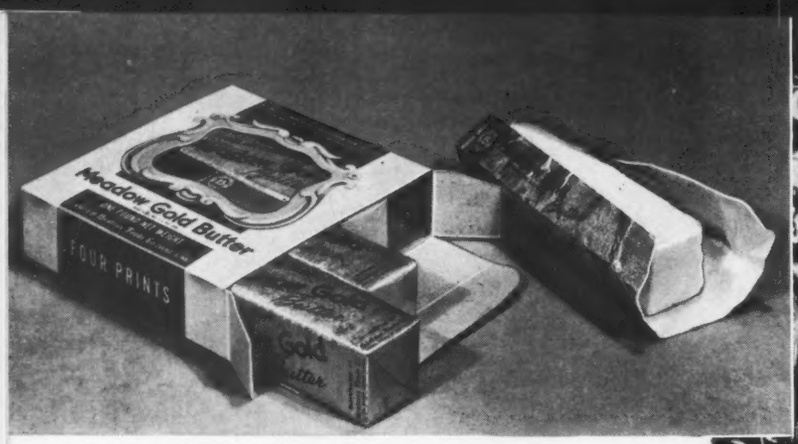


An adaptation of the heraldic device frames an ice cream package on the top of a permanent ice cream menu board.

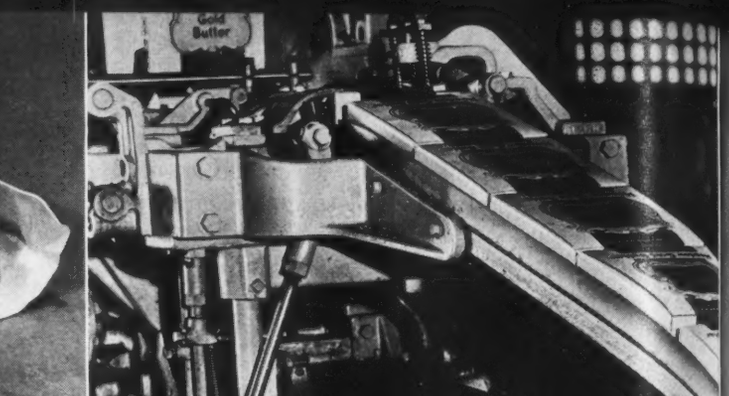
In this operation a Chicago package designer adapted the motif to packages in the Beatrice line, varying it with the needs of the individual product. Now, Meadow Gold ice cream, for which the new motif was first developed, is sharing its rich-looking cartouche with the entire line of Beatrice products.

A secondary design—similar to the basic cartouche—was adopted to bring about a closer association with the trade name Meadow Gold and Beatrice, the company name. This is used on stationery, dividend checks, financial reports and miscellaneous additional products that do not carry the Meadow Gold brand name. Typical of the far-reaching ramifications of this redesign program was the development of a new package for Meadow Gold butter which not only incorporates the new design motif but also uses an entirely new protective structure, the result of long research.

Butter price is primarily based on the "score" which is a commercial term for



Coincident with the new surface design comes a new protective package for butter—a wrap laminated of aluminum foil (outside) and parchment, with prints in a flat window carton.



Laminated foil wrap feeds from roll into standard packaging machine; four wrapped quarters in carton emerge. Foil is said to protect butter better than any materials tested.

quality or flavor. Butter that has a score of 92 or 93 is the very finest of butter and unless these fine flavors are properly protected, butter loses its score rapidly. The high scoring butter will lose its delicate flavor and score much more rapidly than the lower score butters.

Dr. G. W. Shadwick, our director of quality control and research, was given the assignment of developing this new package. He decided to conduct a seven-point program:

1. Study the loss of score of butter during shipping and handling through normal trade channels.
2. Study flavors absorbed in the butter from other products with which it is apt to come in contact.
3. Study the loss in weight of butter due to evaporation of moisture which necessitates overpack of each package to assure the consumer true weight.
4. Study oxidation of butterfat due to light exposures which produce discoloration and surface flavors in package butter.
5. Any new wrap developed should be usable to rewrap a shortened, partially used unit, thereby maintaining its original protection.
6. Develop a new package which would be revolutionary and eye-appealing in design.
7. New wrap or package must be adaptable to existing mechanical wrapping and packaging machines to avoid delays of new equipment design.

Many types of wrapping materials were used in this research and were supplied by several manufacturers. These materials included plastics of various kinds, parchments of various kinds, newly developed waxed wraps, aluminum foil and many combinations of laminated materials.

In all cases the tests were carried out using identical butters in each set of tests with the conventional wrap as the control. There were some 5,000 samples involved in these tests and our research was started three years ago this month.

Tests were made on all samples in the following manner: Butter was wrapped in the various materials to be used in the tests, including the control wrap, and was subjected to cold storage temperatures of minus 15 deg. F. for from 10 days to six months. Samples were stored in household refrigerators at 40 to 45 deg. F. for 14 days. Keeping quality tests at 70 deg. F. with relative humidity 80 to 90% for periods of from four to 16 days were conducted. Samples were sealed in large containers in contact with onions, garlic, cantaloupe, cheese, fish and leftover dishes containing various foods for periods of three to seven days. All samples were checked for loss in score, absorbed flavors, loss in weight and other characteristics that developed during these test periods. Many of the wrapping materials were eliminated as the tests progressed. As an example, some wrappers submitted for the tests imparted flavors to the butter due to their chemical makeup. This was particularly true of the various plastic wraps.

During the first year of our research it was quite evident that aluminum had the greatest possibility of butter protection, but much work had to be done to work out the details to get all that was desired from this material.

One of the aluminum foil companies, through its research department, worked out various kinds of foils, of various weights and thicknesses, laminated with a variety of materials. It was also necessary to experi-

ment with annealing foils to determine the correct tempering that must be used in preparing foil to adapt it to machine wrapping. The annealing study was very interesting in that we found some foils that would wrap well but under cold storage temperatures of minus 15 deg. F. would break and split open; and by the same token, when foil was too soft, it would not work properly in machine wrapping. The foil manufacturer also developed satisfactory coating processes which eliminated salt corrosion.

It was found that foil by itself gave as good results as did combinations of foil laminated with other materials, but that foil without a laminated backing tore easily, making it hard to strip from the butter.

Gradually these tests narrowed to a point where two types of laminated foil materials gave the best results. Parchment lamination had the most promise, but the conventional weights of parchment when laminated to foil made the finished wrapper too heavy and gave us trouble in machine wrapping.

Parchment manufacturers were approached concerning the possibility of making a much lighter weight parchment, perhaps half the weight now used for butter. It was considered impossible to make a 15-lb. parchment, but one of the manufacturers did the impossible and the combination of new light-weight parchment and laminated aluminum foil worked perfectly in the machine wrapping operation.

The designing of a carton was the next problem and the open-face carton showing the aluminum foil-wrapped butter was chosen. To give greater appeal and color to the finished package, the foil wrap has been color-printed.

The new Meadow Gold butter wrapper consists of 0.00045 aluminum foil, protective coated to prevent salt corrosion and mounted to 15-lb. parchment. This is how the new package meets the original seven points desired:

1. The conventional-wrapped butter which was the control in these tests lost an average of 2 points in score more than the new Meadow Gold aluminum foil-wrapped butter.

2. The new aluminum foil wrap *does* protect butter against the absorption of flavors of other foods of any kind, including onions, garlic, cantaloupes and leftover foods. It gives housewives the assurance that the butter they buy will retain its original score and flavor regardless of other items placed next to it in the refrigerator.

3. Loss in weight was shown to be about 2¼% greater in the control samples than the loss in the foil-wrapped butter.

4. Fat oxidation due to exposure to light was

The Meadow Gold trade symbol has been adapted to every product and package form—ice cream cartons, labels for jars of salad dressings and sandwich spreads, cheese cartons, milk bottles and egg cartons.

lessened by the use of foil. This was determined by the use of photographic film. It was not fogged in the foil-wrapped butter, but was badly fogged in the other wrappers tried in this experiment when the photographic film was developed three days after wrapping.

5. The new wrap can be readily used to rewrap shortened units of butter. The proper annealing tempers and treatment of the foil in its manufacture allows it to be refolded tightly, giving the original protection to the butter.

6. The new package is revolutionary in appearance and design.

7. The new wrap is adaptable to existing mechanical equipment with very minor changes in the equipment itself. The foil does a much neater wrapping job than our control material.

Summing up our over-all redesign program, I should like to emphasize this one point: Even though the display organization was commissioned to produce only the permanent and semi-permanent pieces of our display program, we felt very emphatically that all designs should emanate from the basic motif. Only in this manner could we maintain design discipline, spotlight the identifying character (*Continued on page 192*)

COUNTRY-WIDE IDENTITY FOR ICE CREAM

The Borden Co. lays claim to being the first to market ice cream nationally in a uniform container. This company's Lady Borden ice cream, a new product, has been introduced in a container that will be used throughout the country to give uniform identity to this quality product and which will be an important aid in promoting the Lady Borden name through all the company's advertising. The Lady Borden nation-wide carton is simple in design and carries the name in white surrounded by a white daisy wreath in a field of burgundy. The four flavors—vanilla, chocolate, strawberry and a special based on local custom and season—will be stamped on the printed covers. The package units are one-pint size.

CREDIT: *Container, Sealright Co., Inc., Fulton, N. Y.*

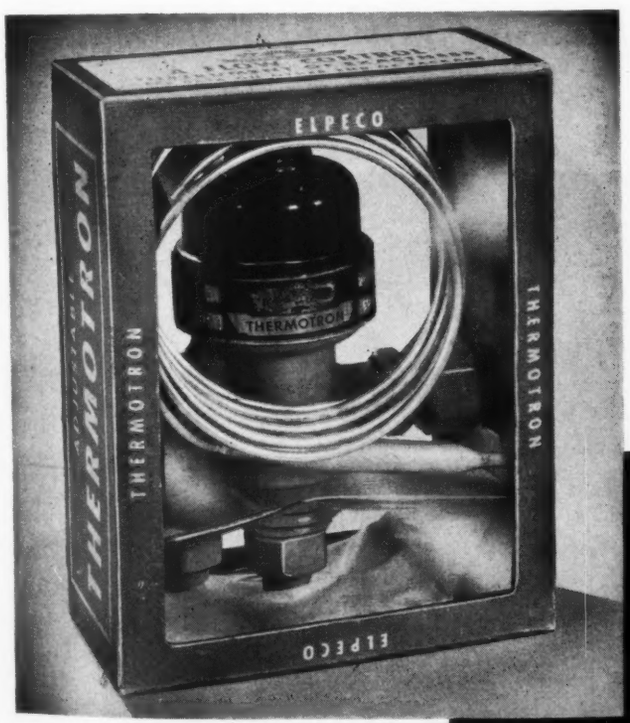
VALVES IN WINDOWS

While display packaging is commonplace in consumer merchandising, not so frequently do good examples come to light showing how the same eye-appeal devices can profitably be applied to the packaging of industrial products which do not reach retail store shelves.

The Electric Power Equipment Co., commercial refrigerator equipment manufacturers (Elpeco) of Philadelphia, make Thermotron valves. These valves are used primarily as replacement parts in commercial refrigerators and sold by wholesalers to servicemen.

The company has just adopted a new transparent package for this product which incorporates a visibility feature as a very functional part of the packaging.

Thermotron valves are made with a number of ratings. The plates designating these ratings are affixed to valves themselves and are clearly visible through window package. Thus no special labeling is required for this feature and same carton can be used for valves of every rating.



Major problem was to combine shipping strength with visibility. Valves are secured by means of die-cut and scored corrugated insert. Sides and ends of carton are used for trademark identification and directions for use.

One acetate-and-paperboard package serves for six industrial products sold only to repairmen

The package consists of a die-cut, tuck-in folding carton with both front and back panels comprised of 0.005-gauge cellulose acetate windows. The valves are held upright by a die-cut scored corrugated insert, which is a component part of the package.

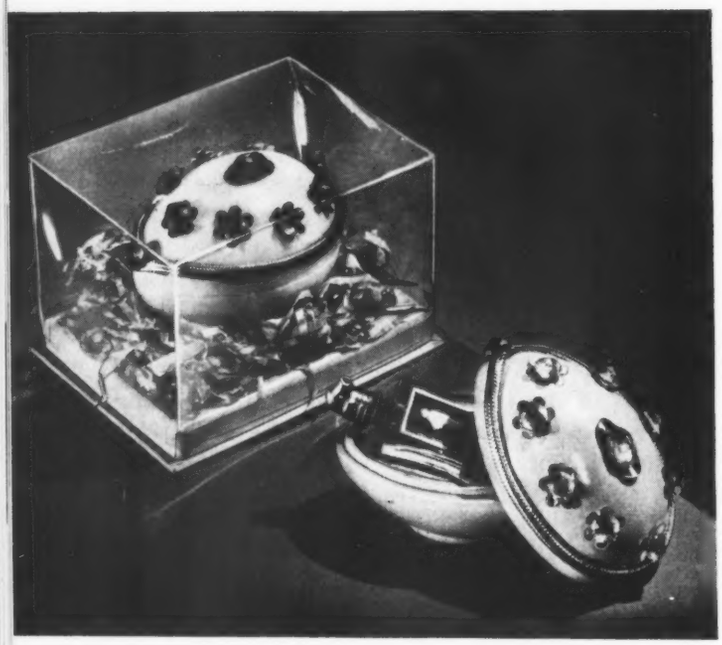
The major problem was to combine shipping strength with visibility. The Thermotron valve is made with a number of ratings for various temperatures. Plates designating ratings are affixed to the valves themselves. By means of the transparent windows, these ratings may be seen clearly at all times through the package and the wholesaler, in stocking the valves, can see the ratings at a glance on the shelves. The use of this transparent package also enables the company to use the same box for valves with some six different ratings without the use of any other labeling.

The carton is printed in one color, green, with reverse white lettering. When set up it measures about $6\frac{1}{2}$ in. by 5 in. by $2\frac{1}{4}$ in. Side and end panels are used for identification, specifications and directions for use.

The package has now been in use for several months and the company feels it is performing a real service not only for the manufacturer, but the wholesaler as well.

CREDITS: *Designers, Merchandise Display Service, Philadelphia. Carton, Comly, Inc., Philadelphia. Acetate sheeting, "Vuepak," Monsanto Chemical Co., Springfield, Mass.*

UREA PLASTIC EASTER EGG WITH JEWELS



Elizabeth Arden's Easter package for "It's You" perfume is this gala plastic Easter egg in an acetate box. The egg, which is made in both blue and pink, is molded of urea in two pieces. The cover is decorated with sequins and jewel-like stones. The sequins are glued to the cover and the stones are faceted to give them a brilliance. Around the edge of the cover is a metallic flexible cord which simulates snake-chain jewelry. Inside, the perfume bottle rests upon pink cotton. Of purse size, the bottle has a sprinkler top which does away with the necessity for a cap and is said to be leakproof. The plastic egg has re-use value as a trinket box. The outer container consists of a transparent acetate hood and a covered paperboard base. The egg, visible from all sides through the hood, rests upon shredded cellophane.

Credits: *Plastic egg, molded by Colt's Patent Fire Arms Mfg. Co., Hartford, Conn., of urea.*

EYE APPEAL FOR JOBBERS

The importance of eye appeal for non-consumer packaging has been recognized by the J. W. Speaker Corp., Milwaukee, in redesigning its cartons for Electro-Patch and Tuffy Patch tire packages. These products, distributed by wholesalers and jobbers, are marketed only to service stations and garages and are never sold directly to consumers. An organized arrangement of company and product name, trademark, slogan and product description results in attractive packaging which emphasizes the quality of the product. Bright orange and black, colors used on other packages in the line, have been retained. The eye catcher on the Electro-Patch package is a lightning streak pointing to the product name. Illustrations on end panels identify the product. Product illustration in full size appears on the cover panel of the Tuffy Patch package.

Credits: *Design, Richard M. Franz, Milwaukee. Cartons, Wisconsin Cuneo Press, Milwaukee.*

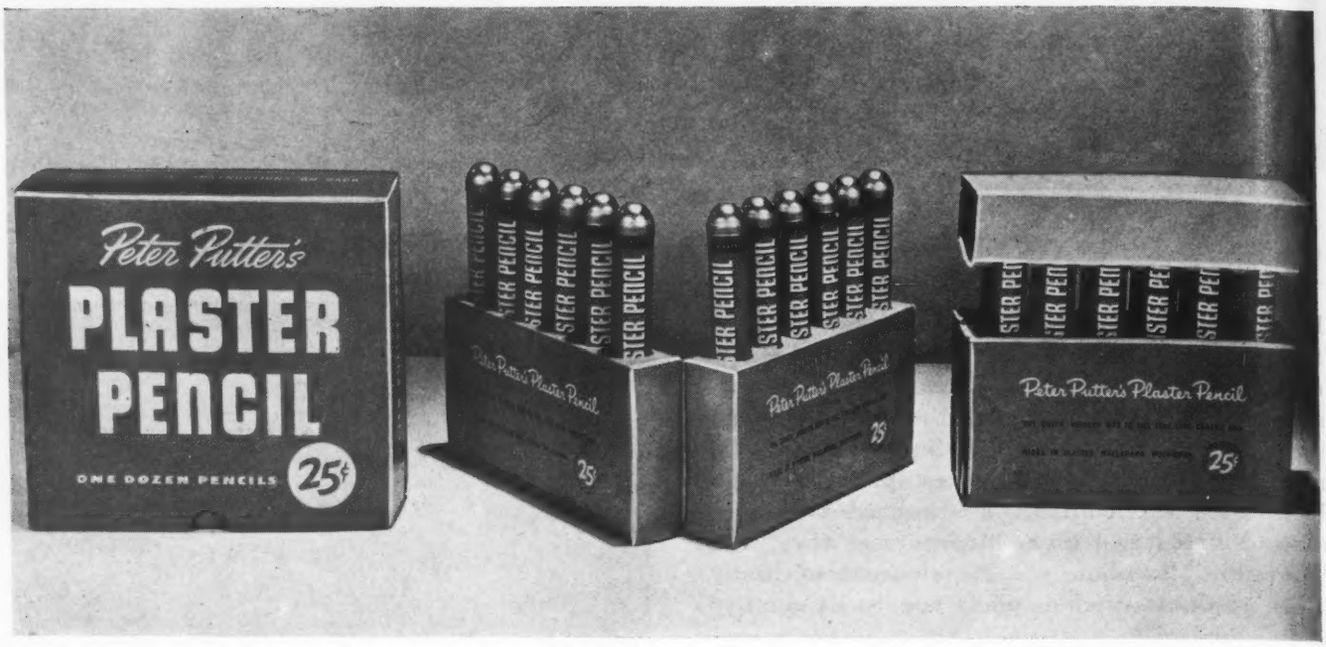
HISTORIES

NEW LABEL FAMILY FOR CANNED MEATS

Providing greater merchandising appeal and conforming more closely to basic designs and colors used on other company product packages, a new set of labels has been designed and now is being used on Swift & Co.'s line of Savor-Tite canned meats. The new label follows a simplified pattern. It features the company's standard two-color scheme of red and blue, incorporates the Swift "Premium" symbol, a basic element of many Swift products, and displays the Swift quality seal, a blue-ribbon symbol, to give the Savor-Tite line a closer tie-in with the company's "Premium" products. Giving prominence to the words "Perishable—Keep Under Refrigeration," the new label should induce better handling by dealers and consumers, thereby affording increased product protection. As a final simplification step, all unnecessary copy was removed and a more modern type used to improve legibility and emphasize product name.

LIVE ORCHIDS IN COLOGNE

Ripley addicts might acknowledge it from hearsay, but non-believers would have to examine this new cologne package before they could vouch for its credibility. Each flacon of "Odor of Orchidea" contains a real orchid, floating in full bloom in the cologne and claimed to be living. Imported from Brazil by R. A. Hillstead, Inc., Miami, Fla., in its packaged form, the cologne is being initially distributed in Florida and California, where consumer acceptance has necessitated dealers' reorders. National distribution is expected to get under way in the summer, when the new spring supply of orchids becomes available. How the orchids are inserted in the flacon is a trade secret. With a possible claim to the zenith in eye appeal, the urn-shaped bottle is topped with gold or lavender tassels combined with black or lavender caps. The cologne is packaged in 4, 8, 16 and 32 oz. containers. R. A. Hillstead, United States distributor, plans national promotion for it.



BEST IN SHOW. Given the blue ribbon for ingenuity of construction and also winner of the first Grand Award.

BOX MAKERS' BEST

Folding Paper Box Association picks award winners for '47

on basis of art work, printing, ingenuity and originality

Superiority of art work and printing, ingenuity of construction and originality of product packaged were the chief criteria used in selecting winners of the 1947 box competition sponsored by the Folding Paper Box Assn. of America. Winning entries were recognized through the presentation of awards on March 27 as a feature of the Folding Box Assn.'s annual meeting at the Drake Hotel, Chicago.

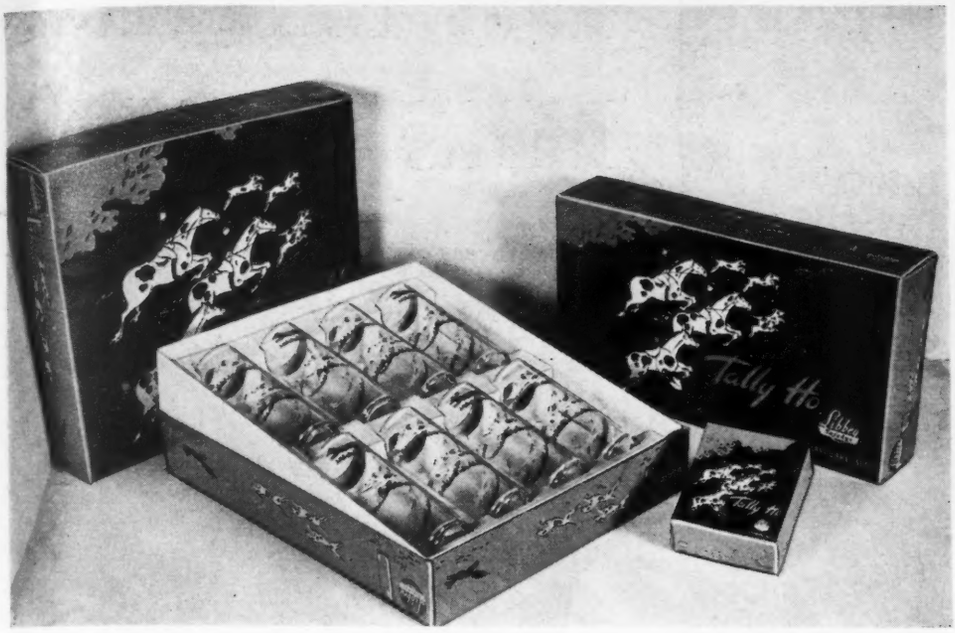
Emerging as a double victor in the competition was the folding container for Peter Putter Plaster Pencil made for Schalk Chemical Co. by Michigan Carton Co., which placed first for ingenuity of construction and went on to capture the first grand award. Second grand award went to the Tally Ho package made by American Coating Mills for Libbey Glass Co., which also received second place for superiority of art work and printing.

Top award under art work and printing went to the family of packages produced for Fuller Brush Co. by National Folding Box Co., Inc. (see p. 204 this issue and p. 136, May, 1946). These packages are part of a general package redesign program developed for Fuller by J. Gordon Lippincott Co., New York City.

Honorable mentions under the art work and printing classification were accorded the following packages: Ken-L Biskit container made for Quaker Oats Co. by Michigan Carton Co.; Casco heating pad box by Robertson Paper Box for Casco Products, Inc. (MODERN PACKAGING, Feb., 1947, p. 124); Toni home permanent carton by American Coating Mills for Noma, Inc.; Modart shampoo package by American Coating Mills for La Mauer Products, Inc.; and Universal blanket box made for Landers-Frary & Clark by National Folding Box Co., Inc.

Second award under ingenuity of construction went to the one-piece compartmented container for six Pond's lipsticks made for Lamont, Corliss & Co. by Robertson Paper Box. Honorable mentions in this group included the exposure-meter container made for DeJur Amsco Corp. by National Folding Box Co., Inc., and the lobster container made by Gardner-Richardson Co. for Jordan Lobster Co. The latter features a tray which holds ice and has a drainage compartment beneath into which the melted water passes. Light in weight, it holds 50 lbs. of lobsters for air shipment.

The canary container made for National Pet Supply Co. by Mott Carton & Paper Co. took top honors for originality of product packaged, with second award going to the group of attractive spot-remover packages made for Thermocor Products, Inc., by Gardner-Richardson Co. (MODERN PACKAGING, Nov., 1946, p. 128). In this group, the dirt container made by Gardner-Richardson and the die-cut Kitchen Kit of towels made by Gair Cartons Div., Robert Gair Co. Inc., for West Point Mfg. Co. (MODERN PACKAGING,



SECOND GRAND AWARD. Libbey Glass Co.'s "Tally Ho" cartons were ranked second to Fuller Brush cartons in art work and printing and the second best all around.

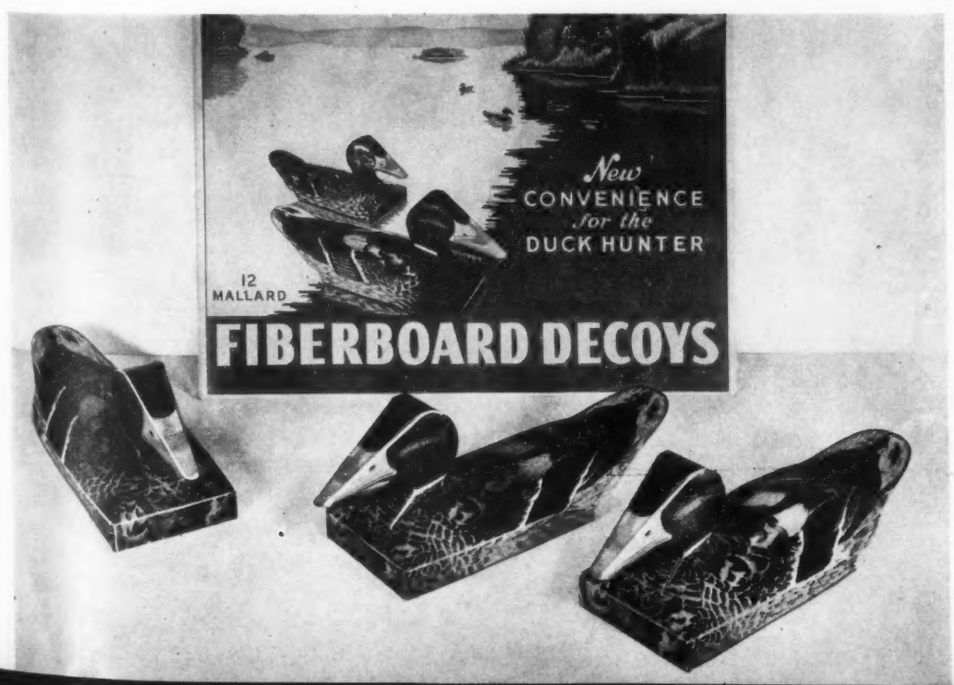
Jan., 1947, p. 124) were given honorable mentions.

A special award went to the realistic fibreboard duck decoys made by Gardner-Richardson Co. for Sears Roebuck & Co. and Montgomery Ward. Cut and creased, but not stripped, the decoys have a waterproof waxed surface and set up for use like a folding box.

Purpose of the annual competition is to improve the quality of folding paper boxes produced by members of the Folding Paper Box Assn. by offering appropriate recognition to outstanding boxes. Eligible for this year's contest was any folding paper box manufactured by a member of the association and produced for the first time after Aug. 15, 1945, except those awarded prizes in the 1946 competition.

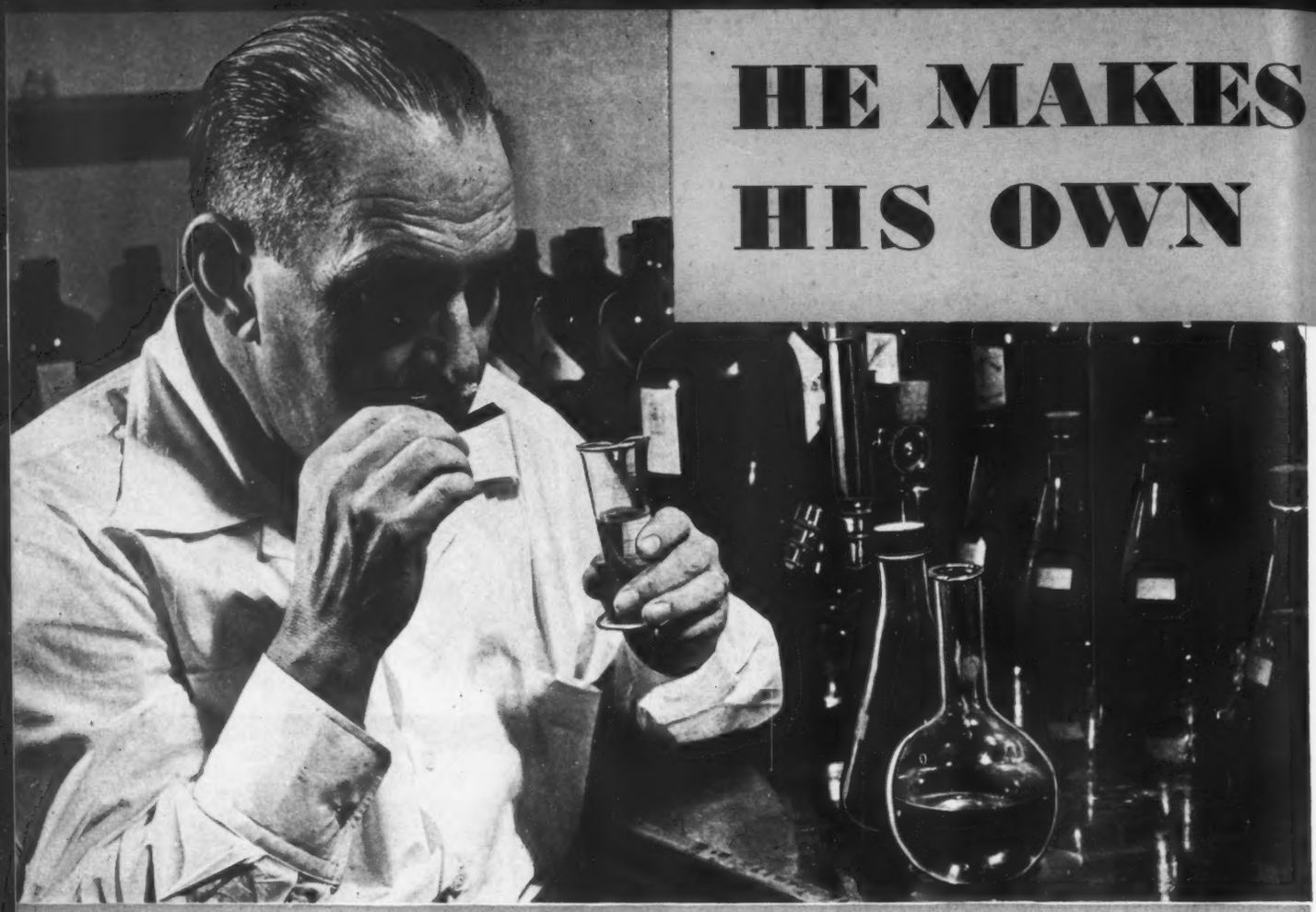
The winning packages, as well as other contest entries, were on display during the meeting of the association at Chicago. Awards were made to winners in each class, with a plaque going to the "best in show."

ORIGINALITY OF PRODUCT. Container for live canaries, made for National Pet Supply Co., won first in this class.



SPECIAL AWARD went to these waxed fibreboard duck decoys, which can be easily set up for use like a folding box.

HE MAKES HIS OWN



Dr. Strange is shown here checking a sample of a new perfume, taken from an aging flask. Final development may require a year.

Package starts with sketches by Art Director Mark Voris, who designs all box wraps and advertising for Strange Laboratories.

Few packagers would find it feasible to fabricate their own set-up boxes, but for this small perfume business it was the only way to get to market

Whoever was first responsible for the statement that the most precious articles often come in small packages may have been thinking of perfumes; but Dr. Merle A. Strange, who manufactures 18 varieties of perfume and 11 cologne concentrates at the Strange Laboratories in Tucson, Ariz., has had also to think of the packages.

Dr. Strange, who is a research chemist by profession, was quick to grasp the opportunity which came when the war stopped the importation of foreign perfumes. He was confident that as good or better perfumes could be made in the United States and in 1943 established his industry in Tucson.

His laboratories had not been long in operation when he was faced with the problem of providing containers for his products. Mrs. Strange, who has charge of the plant's packaging department, found that due to war contracts, no box company between Chicago and the West Coast was in position to supply her requirements.

Dr. Strange saw no other alternative than to make his own packages. This he has done with remarkable success. His box-making department now employs 10 women and girls.

The big problem was to find out just how boxes were constructed. Employees took commercial boxes, soaked them in water, took them apart and examined them carefully.

"For one month we experimented with the possibility of designing and making our own boxes," says Dr. Strange. "Within that month we were in production, had trained girls to do the work, obtained our materials and packages of perfume and cologne were being sold and delivered in our own new containers."

The packages were "not so good" at first, but improvements were worked out and are still being made, with the product becoming better and the manufacturing process smoother and more proficient. Strange Laboratories now have no fear of a shortage of containers.

A bottle of perfume or cologne must be housed in an attractive box. In fact, good merchandising demands that the package be as distinctive in appearance as are the contents in scent. Accuracy and good taste in design and construction are essential in the manufacture of such packages.

The tools needed for making perfume boxes are themselves distinctive and those used in the manufacture of ordinary boxes must be adapted to meet the requirements, Dr. Strange says.

In the Strange plant, chipboard is used as the basic

A skilled finisher applies gold paper "head" to box.

Wooden jig inside box is held on a tension mandrel.

Side wrap completed, the box is removed from the jig.

One girl can make 200 satin-lined box bases per day.

Team of girls glues blanks, forms sleeves and applies bases. Ample stock is always kept on hand.

box material, with a covering of velour flocked paper for the top lines of merchandise and ordinary paper stock for the lesser products, the finished package being wrapped in cellophane. An ample stock of materials for the boxes is kept on hand by careful buying. For example, velour flocked paper is purchased in 70-yard rolls and about 500 yards are always on hand.

Boxes for perfume bottles must be shaped within a very close tolerance. Dr. Strange uses wooden jigs for the shaping of the sides and these he personally made by hand, sandpapering the blocks to the exact size.

"I often worked until the small hours of the morning," he says. "Sometimes I would get the jig too small and the whole thing would have to be done over."

White maple proved the best wood for the jigs and much of this Dr. Strange obtained by sawing up the rails of a bed brought from Peru 60 years ago.

Dies are used to cut out the bottoms and tops of the boxes. The company has recently installed a new die press capable of cutting out any design desired. The box blank is scored and carefully shaped over the jigs. The box is glued along one edge and the bottom is sealed in place.

Within each box is a wooden base on which the bottle is firmly fixed in a socket made of cardboard and velour. The wooden base is covered with velour paper. The separate top telescopes firmly over the base and the bottle is thus held firmly in its package.

One problem was selection of the right kind of adhesive. Something had to be found that would be completely odorless and not detract from the delicate scent of the perfume. Dr. Strange shopped around and finally secured a casein glue for the box tops and sides and a stronger anima glue for the bottoms and the sealing in of the wooden base.

The matter of printing of labels and color designs on the velour flocked paper presented another problem for the new industry. White velour will take an ordinary plate impress, but this would not suffice for velour in color. The problem was solved by use of a hot press which seals the printing or design into the velour. The plate is electrically heated to 250 deg. and the printing is done from special three-inch-wide tape coated with a dry ink of the proper color.

Designs and labels created by the artists at Strange Laboratories are reproduced on metal plates and the printing is handled by a machine which resembles an addressograph. One of these machines, made especially for the company, carries a plate with four labels to be printed simultaneously.

With the methods developed by Mrs. Strange, there are 17 operations required in the manufacture of a container for a one-dram bottle of perfume, 10 for the bottom and wooden base in the box and seven for the box tops and sides. All have been carefully worked out. Girls trained in the plant perform any one of the operations interchangeably and turn out the finished

containers at an unusually rapid rate of speed.

The girls cut and accurately score the box material and shape it over the wooden jigs, which are on revolving spindles. The shaping finished, the box is slipped off the jig and sealed. The bottom is sealed on and bound with reinforcing paper. Next comes the wrapping with the proper paper, labeling, etc. As the side wrap is applied and glued, the box sleeve is held on its jig and the jig on a mandrel which revolves under tension just sufficient to make sure that the wrap goes on smoothly and tightly. The result is a neat packaging job. The company has received numerous compliments from customers on its packaging and shipping of orders.

G. L. Christison, advertising manager, is firm in his conviction that for a very small company the advantages of making its own containers outweigh the disadvantages.

"First," says Mr. Christison, "we have packaging strictly under our control. We can change designs, printing and any other element in the process any time we wish and without delay. We can make improvements as we see fit and adapt our own methods of manufacture to our needs.

"Furthermore, we are making the containers for a third less money than it would cost us to have them made elsewhere.* We are thus cutting down our cost of production for our entire plant."

Dr. Strange is constantly alert to prevent any shortage of materials in his plant, especially where containers are concerned. The glass bottles needed are not easy to find at present, but no effort is spared to obtain them. The company recently learned of a large assortment of bottles in Brooklyn, N. Y., and had the entire lot brought to Tucson by truck.

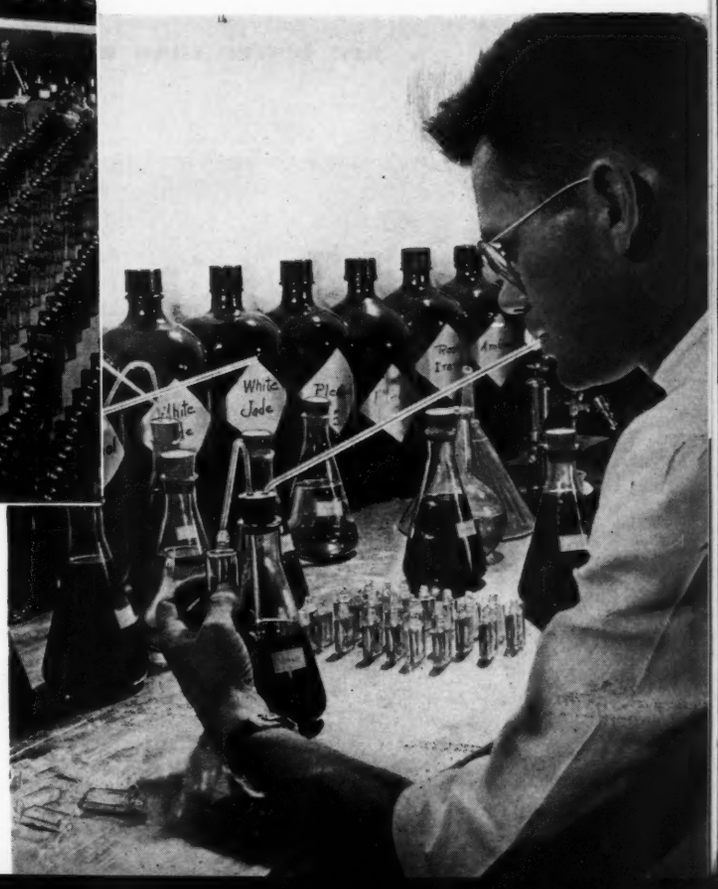
Strange Laboratories is one of the few companies in the country making its own packages. The experiment forced on the firm by the exigencies of war has been successful and has borne fruit, Dr. Strange feels, in greater freedom of package design and reduced cost of production. Packages can always be made up to fill rush orders, which can be on the way to retailers within 24 hours of receipt.

In manufacturing his own packages, Dr. Strange has not only solved a postwar problem satisfactorily; he believes he has also created a new industry that serves to make his principal business more independent, efficient and progressive. Dr. Strange is well satisfied with what has been accomplished thus far and is seeking constantly to improve his packaging methods.

* Others who have tried making their own boxes may question this statement. For a small-volume operation it may be true; for a large user of boxes it would probably not work out.

Mrs. Strange, who is in charge of packaging for the laboratories, is shown here inspecting a bottling run. Production methods, which were developed by her, require 17 operations for the manufacture of each one-dram container. After the initial inspection, bottles are stored on sides to test their closures. As a further assurance, the bottles are inspected a second time before boxing. All operators on packaging line were trained at the plant.

Mechanical fillers cannot be used with tiny bottles. Each one of the perfumes has its own aging flasks, working flasks and wash bottles from which it is filled into individual bottles by blowing.



Pulling of the tear tape around the middle discloses a loaf divided into two halves, separately wrapped and sealed in waxed paper. Thus half the loaf may remain fresh while the other half is being used.

HALF A LOAF

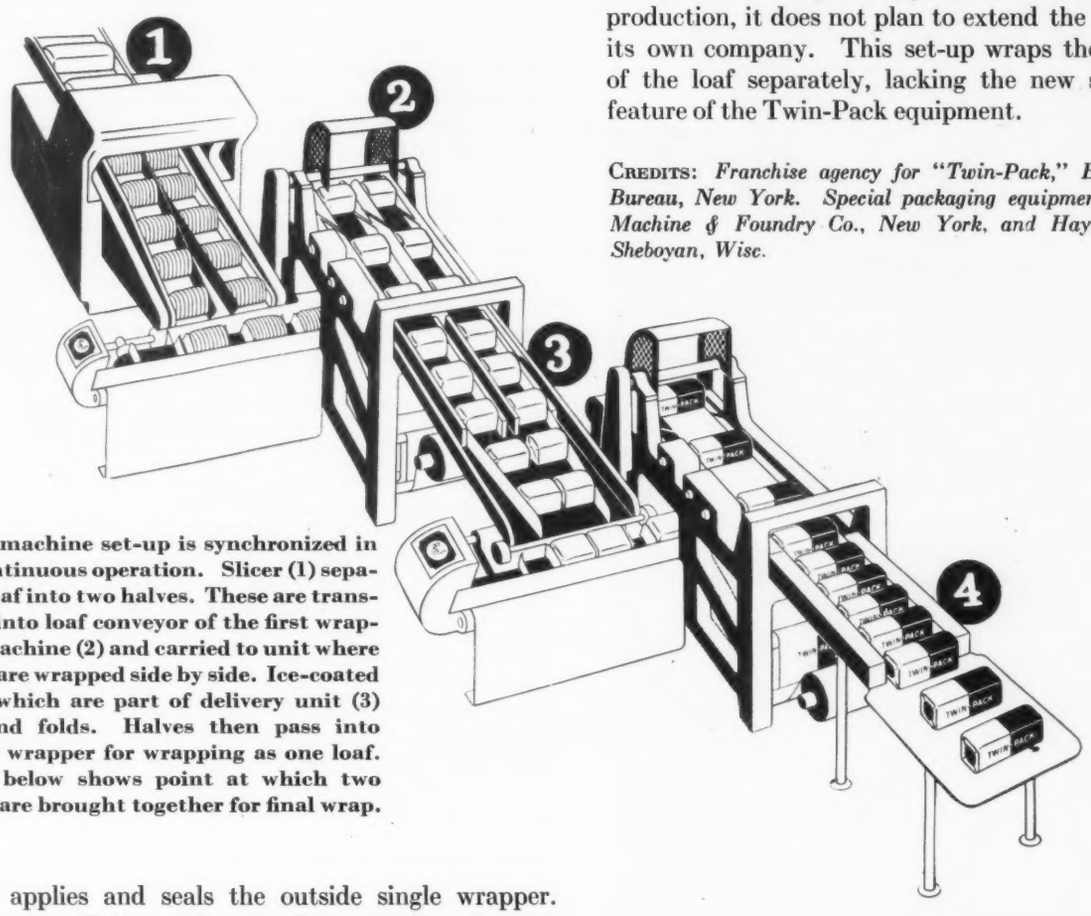
Halves separately wrapped are better than a single loaf; a 1942 prize package is reintroduced

One of the best bread packaging ideas of recent years was a casualty of Pearl Harbor. Patented and introduced in the South just before the war, the idea of splitting a sliced loaf into two halves and wrapping each half separately inside one over-all wrap won an award in MODERN PACKAGING's 1941 *All-America Package Competition*. Hailed at the time as the most important bread-packaging innovation since the advent of pre-sliced loaves, the idea appeared destined for widespread use. But drastic government restrictions on materials and machinery immediately following the outbreak of war forced its suspension for the duration.

Now "Twin-Pack," as the split loaf is called, is back stronger than ever. A national sales agency has been appointed and one leading machinery maker already is producing the necessary equipment. Other machinery makers are expected to come in. The Columbia Baking Co., which originally developed the idea and built the first machine, has reintroduced the loaf in the five Southeastern states in which it operates and 45 other bakeries from coast to coast are reported to have contracted for the rights and the machinery. Supported by an elaborate campaign using newspapers, radio, posters and store displays, the reintroduction already, it is claimed, involves the largest group of independent wholesale bakers to engage in a uniform bread package marketing idea in the industry's history.

The basic appeal of the package to the consumer is, of course, the possibility of keeping half the loaf fresh while the other half is being used. In the last 30 years bread consumption habits have changed; families have grown smaller. There has been a demand for a smaller loaf. This development permits the baker to meet this demand without reducing his per-unit sale. It offers not only convenience but economy—in reducing the likelihood of a stale end of the loaf that would have to be thrown out—and thus is an application of the best principles of packaging.

Mechanically, the adaptation is fairly simple. An attachment on the slicing machine separates the loaf into two halves following the slicing operation and the halves then move to a standard wrapping machine with special attachments making it possible to wrap the two halves separately and simultaneouly, heat sealing the ends. This simultaneous wrapping is a post-war refinement. At the end of this first wrapping machine, the sealed halves are brought together again and shunted into a conventional wrapping machine which applies and seals the outside single wrapper. The entire slicing and wrapping operation is synchronized as a unit. The outside wrap usually has an integral tear-tape arrangement at the center of the loaf to facilitate opening the package and splitting the loaf into its two halves, but this is not essential.



Entire machine set-up is synchronized in one continuous operation. Slicer (1) separates loaf into two halves. These are transferred into loaf conveyor of the first wrapping machine (2) and carried to unit where halves are wrapped side by side. Ice-coated tanks which are part of delivery unit (3) cool end folds. Halves then pass into second wrapper for wrapping as one loaf. Photo below shows point at which two halves are brought together for final wrap.

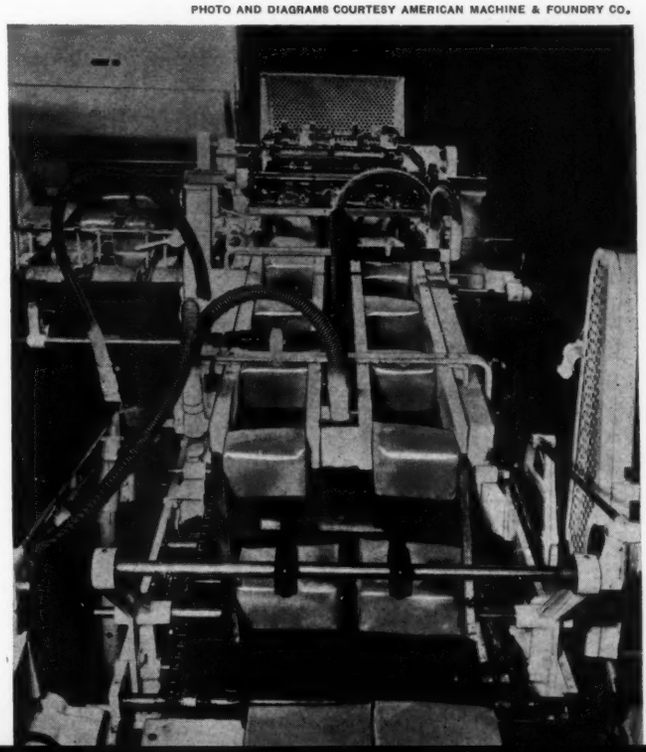
An interesting feature is the possibility of providing two different types of bread in the two halves of the loaf—a combination of white and whole wheat, for instance. In its current production Columbia Baking Co. is using opaque waxed paper for both inner and outer wraps, but cellophane, glassine or a combination of materials can be used. Promotion strongly plays up the tear-tape feature because of its proven appeal to the housewife.

In its brief prewar introduction the new loaf was distributed from Columbia Baking's 14 plants to some 25,000 grocers in Virginia, North Carolina, South Carolina, Georgia and Florida. Consumer surveys were conducted in house-to-house surveys in several cities. In Jacksonville, Fla., Twin-Pack was said to have been the choice, over five other brands, of 60% of those interviewed. In Macon, Ga., the preference was 64%; in Greenville, S. C., 81% and in the highly competitive Atlanta market, 36%.

Almost simultaneously with Twin-Pack's prewar introduction, the Schmidt Baking Co., Baltimore, adopted a similar bread package idea, using cellophane for half of the loaf and a cellophane overwrap (see MODERN PACKAGING, Sept., 1941, pp. 90–92). Schmidt adapted conventional machinery to the job and although its "Pantry Package" loaf is also now back in production, it does not plan to extend the idea beyond its own company. This set-up wraps the two halves of the loaf separately, lacking the new simultaneous feature of the Twin-Pack equipment.

CREDITS: *Franchise agency for "Twin-Pack," Bakers Research Bureau, New York. Special packaging equipment by American Machine & Foundry Co., New York, and Hayssen Mfg. Co., Sheboyan, Wisc.*

PHOTO AND DIAGRAMS COURTESY AMERICAN MACHINE & FOUNDRY CO.



MODERN

1

1 Compliance with postal regulations prompted this functional package for "Scent Evador," a scented bathroom deodorant made by B. & R. Fabrications, Inc., San Jose, Calif. A die-cut folding carton holds two metal cans. One contains match-like deodorant sticks and is covered with a metal disc. The match is struck on a patch on one end panel, then dropped through the die-cut openings of carton into second metal can, from which scent emanates. Package is cellophane wrapped. Carton, Schmidt Lithograph Co., San Francisco.

2

2 Eye appeal for these two boxes of candy marketed by Walter A. Hewitt Candy Co., Los Angeles, has been achieved by use of a wrap of 0.00035 foil laminated to a 40-lb. book paper and lacquered. One has dull finish, the other a bright finish. Background tints are applied by rotogravure and printing on flat-bed press. Wraps designed and supplied by Milprint, Inc., Milwaukee.

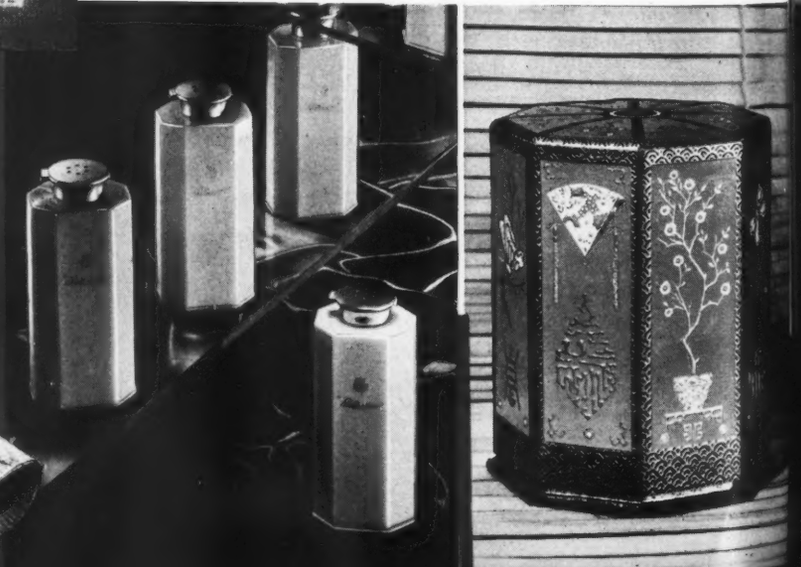
3

3 Color has been used to distinguish between fruit and vegetable packages for Kelly Kuality frozen foods: green for vegetables and blue for fruits. Slanting panel for product name will prove convenient as new items are added to line. Design, Al Alko, New York. Container, Nashua Gummed & Coated Paper Co., Nashua, N. H.

4 Cylindrical paperboard containers for Colorfuel, a concentrated fuel and coloring agent made by U. S. Sales Corp. for giving color to a fireplace blaze, have printed labels in red, brown and green to simulate the appearance of a log. Label design, Charles L. McShane; printing, Theo. Rozek & Co.; paper tubes, Cleveland Container Co., Scientific Paper Products Corp. and Chicago Paper Tube & Can Co., all of Chicago.

4

5 Octagonally shaped containers have been introduced for two Coty products. One is a shaker-type powder can injection molded of cellulose acetate for Ballerina talcum. Can is chartreuse, with gold cap and lettering and gold-leaf stamped design. The set-up box for Asuma perfume is covered with gold cover paper richly decorated with Chinese red panels carrying oriental motifs. Plastic can molded by Detroit Macoid Corp. of Tennessee Eastman Corp.'s Tenite.



5

N PACKAGING PAGEANT

6 Transparent plastic tubes of drawn cellulose acetate are used by the Star Suspender & Belt Co., New York, as a display and protective package for men's belts. Container permits product to be viewed from all sides and is adaptable for re-use. Acetate, Monsanto Chemical Co. Vuepak.

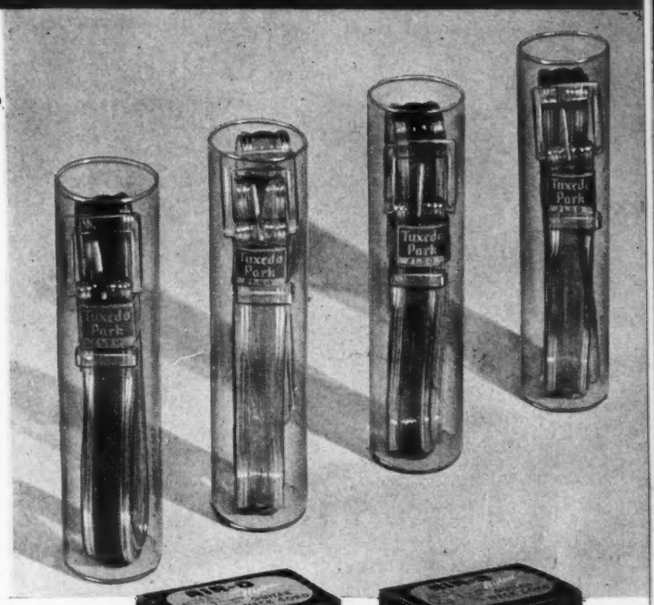
7 Air-O nylon guitar neck cords, distributed by H. & A. Selmer, Elkhart, Ind., are packaged in self-dispensing cartons. Perforated at the bottom, the dealer tears off the perforated portion to display cords individually packaged in cellophane. Carton holds 12 cords. Design, Carter, Jones & Taylor, South Bend, Ind. Cartons, Barger Box Co., Inc., Elkhart, Ind.

8 Waxed paper wrap for Famous Frosted Foods Corp.'s French Fried Potatoes has a continuous, over-all design printed in an upward slant which combines simple and inexpensive packaging with effective display. Continuous design enables wrapping without the use of electric-eye equipment. No matter how wrap is applied, the design is visible on all panels. Wrap, Colonial Salesbook Co., New York.

9 Rotenone Products Co., Inc., East Orange, N. J., is utilizing a three-color varnished duplex bag with a patented inner die-cut paperboard construction fitted in a bag for use as a bellows and promoted as the "new Squeezit package" for its Rotecide roach powder. Top of the bag is folded to a peak and stapled. Tiny white tip is cut off and by squeezing the package powder is dispensed. Container, Thomas M. Royal & Co., Philadelphia.

10 Feature of the new mustard container for Holsum Products, Milwaukee, is this unusual placement of the plastic server, affixed to the face of the jar behind the label. The containers are used for three varieties of mustard; each has a different color of matching label, cap and server. Jars, Hazel Atlas Glass Co., Wheeling, W. Va. Caps, Trio Metal Cap Co., Chicago. Labels, Moebius Printing Co., Milwaukee.

6



7

8

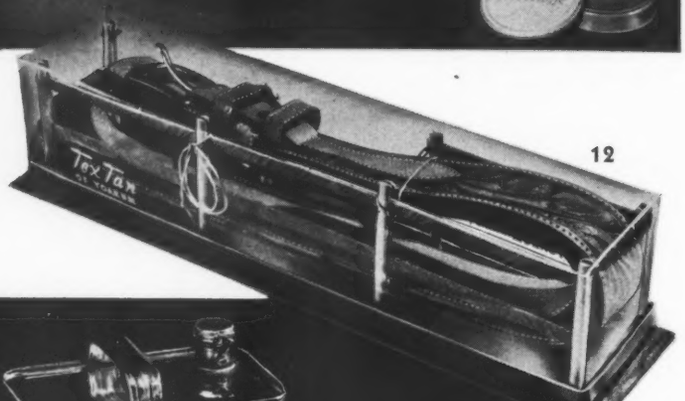
9 PHOTO, SYNDICATE STORE MERCHANDISER

10

MODERN PACKAGING

11

11 Daggett & Ramsdell has introduced a complete new line of popular-priced cosmetics under the name "Debutante," packaged to introduce young women to a life-time use of this company's products. Background coloring is a delicate gray-blue, with a floral design in different shades of pink. Scalloped design and distinctive lettering is in reverse white.



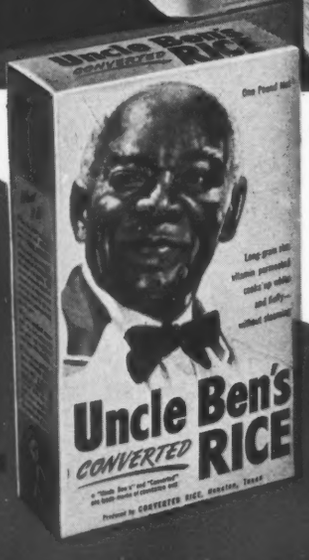
12

12 For merchandising Western-type belts, Tex-Tan Co., Yokum, Tex., is using a cellulose acetate box designed like a miniature corral. Wood pieces stand on end around the box to form fence posts. A lasso slung over one of the posts completes the Western setting. Acetate, Celanese Corp. of America Lumarith. Container, Plastic Products of Texas, Dallas.

13 Label design for Reefer-Galler's "Sla" cedarized spray seeks to convey to the consumer a feeling of safety in the use of DDT to overcome the wartime publicity of danger in its use. Subdued coloring and simplicity of design achieve this end. Unique effects and startling colors were avoided. Soft blues and white are used for labels on each of the three sizes of metal containers with full directions clearly printed on the back panel. Design, E. Leonard Koppel, New York. Printing, Schwartz-Serlin Printing Co., Inc., New York. Metal containers, American Can Co., New York.

13

14 Looking for a trademark for its new rice product, Converted Rice, Houston, Tex., logically decided upon one which would be associated with the Deep South. The smiling Negro chef was named "Uncle Ben"—a short name that could be effectively displayed on the small carton. Converted rice is said to be produced by a new process which retains vitamins and minerals in the whole grain before milling and renders it weevil-proof. Side panels explain what it is and why it's better. Recipes appear on the back panel. Carton, A. Geo. Schulz Co., Milwaukee.



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15 A simple, modern design featuring the "Sondra girl" has been adopted by Coburn Farm Products Corp., New York, in introducing to the consumer market under the Sondra Brand trade name a number of dehydrated food products developed for military use during the war. Design, E. McKnight Kauffer, New York. Labels, Rosy Printing Co., New York. Cans, Continental Can Co., New York.

15

PAGEANT

16 Two new carton packages were recently added to Island Specialty Co.'s Lalita brand products: "Frit-R," a mix for making fritters, and "Potato Pancake Mix." Yellow, brown and red coloring is used for both packages; positioning of red and brown are reversed on the two packages for easy differentiation. Reproduction of cooked products appear on the face of each package. Panels carry recipes. Cartons, Metro Carton Corp., Brooklyn, N. Y.

17 Pale yellow fired jars with ivory colored urea caps and laminated labels have been adopted for Primrose House treatment-line cosmetics. The jars, when labels are removed, may be decorated or monogrammed with nail enamel to form a personalized dressing table ornament. All labels are lettered in gold and cerise. Oval shaped bottles have ivory colored molded urea caps. Labels, National Label Co., Philadelphia. Jar caps, Armstrong Cork Co., Lancaster, Pa. Bottle caps, Plaskon, Formold Plastics, Inc., Chicago. Jars, Hazel Atlas Glass Co., Wheeling, W. Va.

18 Adoption of these attractively designed collapsible tubes for two of the industrial cements made by Maas & Waldstein Co., Newark, N. J., was the result of a survey conducted by the company's research department. General Purpose Cement 54 and Spot Cement 76 were found to be widely used, but with much waste and bother. Survey showed a 2-oz. tube to be more suitable and convenient. Tubes, Trade Laboratories, Newark.

19 Package design for Matchabelli's new summer cologne, appropriately named "Summer Frost," is keyed to the product it contains. Garden scene in foreground is backed by a swimming pool. Colors are cool blues and greens with accents of red. Familiar Matchabelli flask bottle is white frosted. Design, J. P. Sawyer, New York. Box, The Warner Bros. Co., Bridgeport, Conn. Bottle, Swindell Bros., Baltimore, Md.

20 Newest item introduced by the 40-Fathom Div. of General Foods Corp. is 40-Fathom Concentrated Clam Chowder. Label design identifies it as a member of the well-known 40-Fathom food family and displays familiar fisherman trademark. Yellow and red on front of label contrasts with blue background. Labels, U. S. Printing & Lithograph Co., Eastern Plant, Brooklyn. Cans, American Can Co., New York.

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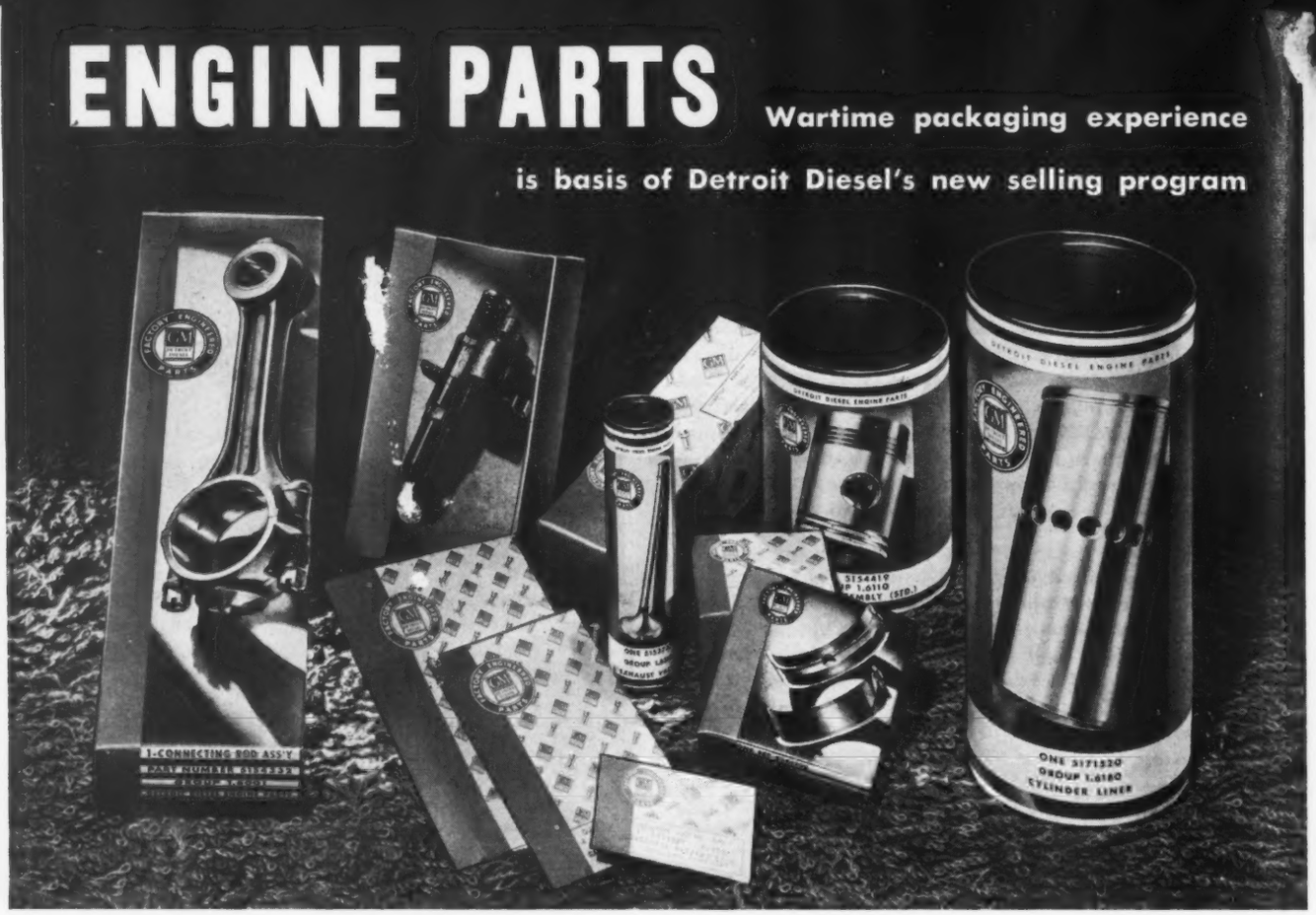
ENGINE PARTS

Wartime packaging experience is basis of Detroit Diesel's new selling program



Unmistakable identity is given to important engine parts by photographic reproduction on fibre cans and paperboard boxes. Parts numbers are printed on each container with the utmost legibility. The company emblem, or trademark, also appears on every package.

World War II dramatically emphasized the importance of adequate protective packaging and ready identification of spare engine parts. The thousands of gasoline, diesel and electric power plants which helped propel America to victory represented a tremendous servicing problem. Getting the right part to the right place, ready for installation without delay, called for the best the nation could offer in packaging materials and techniques.

Out of this wartime experience has come a new appreciation of what an orderly spare parts packaging program can accomplish under competitive conditions—not only from the standpoint of product protection, but also as a merchandising weapon. That intelligent packaging fits in logically with the manufacture and distribution of heavy industrial power equipment is illustrated by the constructive program developed since the war by the Detroit Diesel Engine Division of General Motors Corp.

Detroit Diesel devotes its entire effort to the production of heavy-duty, high-speed diesel engines and parts. Made in a variety of sizes, the engines are used to power boats, trucks, buses, tractors, road machinery, saw mills, stationary electric generating plants and numerous other types of industrial equipment employed in mining and other basic industries. Though noted for its rugged efficiency, a diesel engine, like all others, eventually requires servicing. And that's where the Detroit Diesel spare parts packaging program enters the picture.

This company was perhaps fortunate in that it had no previous packaging set-up to discard or revise. A relatively young organization, it had very little experience with spare parts packaging before the war because few of its units had been in operation long enough to require much servicing. The few spare parts orders which came in were handled on an informal basis—the part was suitably protected, packed and shipped, but no general packaging program was required. Then, during the war, all spare parts packaging was handled in accordance with government specifications.

When the war clouds rolled away, Detroit Diesel found itself with greatly increased productive capacity. Its engines were moving out in growing volume, going into service under widely varying conditions. As the company's spare parts program was stepped up to meet these new conditions, the need for a broad packaging program became increasingly evident. Accordingly, a package engineering department was established and the company started from scratch to develop a program which would insure the necessary product protection and identification, facilitate the movement of parts from the shelves of the distributor and effect maximum utilization of hard-to-get packaging materials.

Detroit Diesel engine parts are distributed through the company's own distributor and dealer organization, through Allis-Chalmers Mfg. Co. distributors, insofar

as tractor application is concerned, and through General Motors Truck Division for trucks and buses. It was recognized at the outset that the packaging approach utilized would have to make due allowance for this multiple distribution arrangement.

Rather than complicate the program with different label designs, colors, etc., the company decided to adopt a basic package design and color scheme which could be used for all the packaged parts. The soundness of this approach was readily recognized by the various distributing organizations.

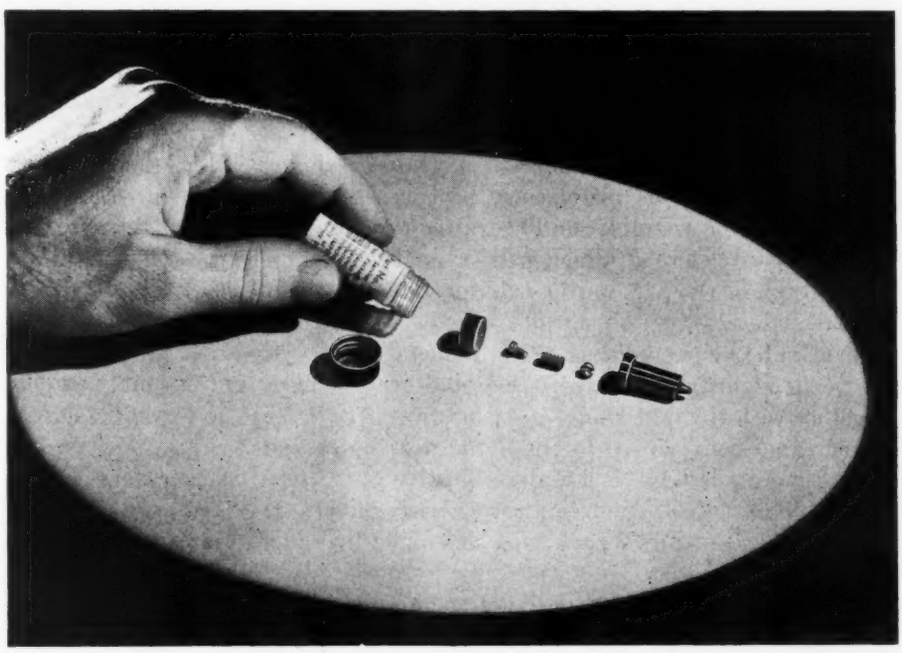
Positive identification was achieved through the adoption of a distinctive over-all package pattern incorporating the GM Detroit Diesel emblem, circled by the phrase "Factory Engineered Parts" and combined with small reproductions of the company emblem and a symbolic drawing of a fuel injector tip—literally the heart of the diesel-type engine.

As shown on the sample parts envelope tipped on with this article, the design is printed in red on a yellow background. The same colors are used in reproductions of the company symbol in parts books, order pads, etc., as well as for decalcomania used on dealer windows, stock bins and panel delivery trucks.

The special colors were coded and an effort made to standardize them for different kinds of printing surfaces through a major ink supplier. However, the company will permit reasonable deviations from a perfect color match when it feels that the supplier has made a real effort to meet the standard. Use of bold, easily recognized colors instead of delicate tints minimizes the problem of color control.

The distinctive all-over pattern is employed on a variety of set-up and folding boxes and envelopes, as well as for labels used on drums and metal containers for such products as fuel-system rust preventive and engine touch-up paints. The gummed envelopes, of which there are some 16 sizes ranging from $2^1/_4$ by $3^1/_2$ in. to $16^1/_4$ by $31^3/_4$ in. come from the supplier with a printed panel bearing the words "Quantity," "Part No." and "Group." Use of these envelopes for numerous types of parts gives great flexibility to the pro-

Tipped-on sample of typical small parts envelope shows the color scheme used throughout the line and the over-all standard design.



Unusual in this field is the tiny plastic vial which holds four vital parts for the injector, heart of the diesel motor. A wooden plug fits into the bottom of the vial.

Dealer's monthly parts ordering and inventory control is a combined operation and follows the sequence of stock arrangement. Clear, easily legible lettering on the labels is helpful to him.

Main and connecting-rod bearing shell sets use sturdily constructed folding boxes, with either photographic reproduction or over-all design.

gram and facilitates the problem of inventory, since the specific information is filled in by multigraph prior to the actual packaging operation.

For a few fast moving parts such as pistons, cylinder liners, connecting rods, piston rings, bearing sets, valves and the injector assembly, an illustrative type of package has been adopted which carries an eye-catching photograph of the part on the exterior of the package. These containers, consisting primarily of set-up boxes and cylindrical paper canisters with metal ends, also carry the identifying red strip used on other packages, together with the GM Diesel emblem.

Increased convenience for both the distributor and the ultimate purchaser is a major objective of the program. This feature is nowhere more clearly illustrated than in the company's packaging of engine overhaul gasket kits.

On a complete overhaul, a diesel engine usually requires replacement of all gaskets. The Detroit Diesel 6-71 kit, typical of other gasket assortments, includes 47 different types of gaskets (72 gaskets in all). Formerly it was necessary for the distributor to assemble all these units separately and write up the order item by item. This took up a great deal of clerk time and also left the way open for mistakes in assembling the order.

Under the present packaging program, the engine overhaul gasket kits are completely assembled and packed at the factory. Correlated gaskets are packed together in inner envelopes to facilitate engine reassembly and each kit contains a complete packing list. Now the factory-packaged kits may be ordered, stocked and dispersed by the distributor under a single part number. The complete kits, packaged according to engine length in tape-sealed corrugated folders or heavy kraft envelopes, are equally convenient for the ultimate user who installs the gaskets.

Piston ring packages also show attention to the convenience angle. In order to satisfy all normal types of

demand, the rings are merchandised both in sets and from open stock, packaged in both instances for protection and display. The piston ring sets, consisting of four compression rings and two oil control rings, contain the proper assortment for one cylinder. The individual rings are packed in neutral greaseproof parchment envelopes, suitably printed, and the complete set goes in an attractive folding carton with photographic illustration. Each package includes complete instructions for installation.

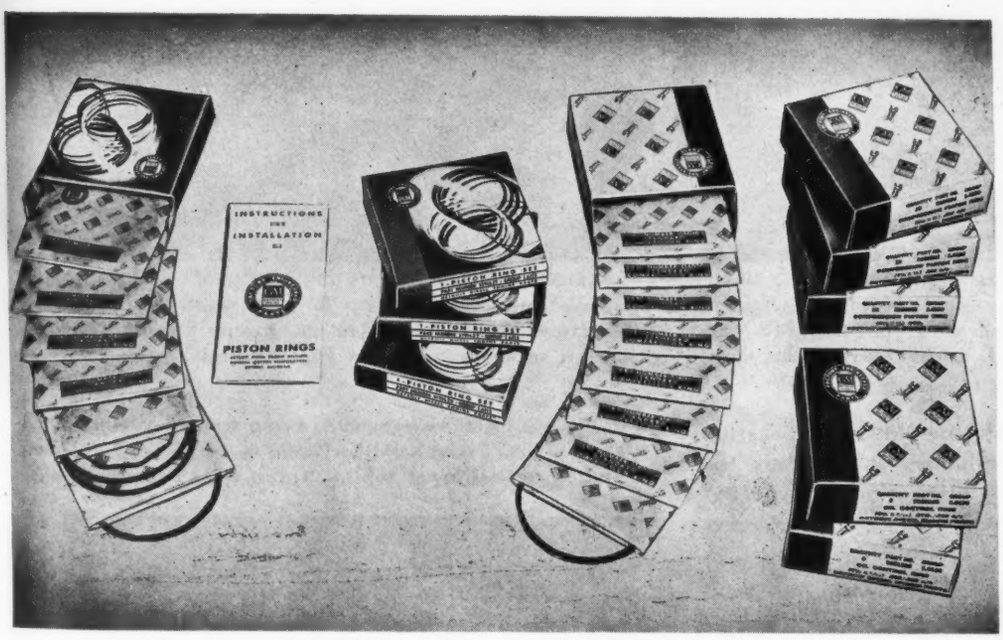
For open-stock selling, both the compression and oil control rings are available as separate items, packaged in unit quantities of 12 and eight, with each ring enveloped and identified. The folding cartons used for the open-stock assortments employ the standard GM Diesel package design with the identifying red stripe along the left side. Quantity, part number and group designation are printed on the end flap, simplifying identification of the packages on the distributor's bins.

From the standpoint of product protection as well as merchandising, the use of the paperboard canisters for such parts as pistons and valves is of interest. The cans have an applied illustrative label and a greaseproof liner which prevents wicking through of the preservative oil in which the parts are dipped prior to packaging. At present such parts are brought to the top-crimping machine in tote boxes and placed in the cans by hand. It is likely that some phases of this operation will be conveyorized later.

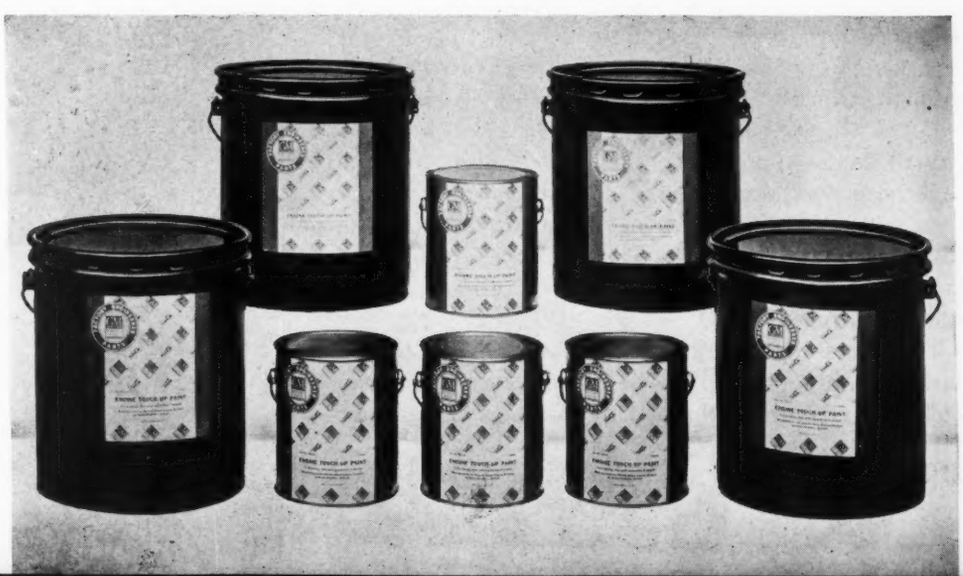
These sturdy containers, with their halftone illustrations, are "standout" packages in the distributor's display and also have a distinct re-use value. Even those which wind up as storage boxes for miscellaneous nuts and bolts will still be doing a merchandising job for Detroit Diesel. The company is planning to use this same type of package for fuel pumps in the near future.

Use of the special GM Diesel labels on 1- and 5-gal. metal containers of engine touch-up paint and 1-gal. cans of fuel-system rust preventive helps to round out the packaged line. These items, of course, are actually made and packed by other suppliers, but the required labels are furnished to them by Detroit Diesel.

An unusual package is the plastic vial used to contain four important parts for the vital fuel injector: the spray tip, valve assembly, valve stop and valve spring. The vial is only $1^3/_4$ in. (*Continued on page 186*)



Piston rings are individually packaged and identified in greaseproof parchment envelopes; sets are packed in a photographic folding carton. Open-stock rings are similarly packed, but in stock boxes.



Over-all design is used on all labels, shown here applied to engine touch-up paint drums and pails of rust preventive.

PACKAGING COMMITTEE

It solves problems of fast growing Winthrop companies, which pack over 900 medicinal products for domestic and foreign distribution, requiring 7,500 different packages

Packaging committee chairmanship is full-time job for Nelson T. Williams. Other members, clockwise from left, are: W. M. Miller, Hugo Vogel, Harry Andres, Joseph Camp, Keith Borland, Oscar Norris. Not shown are design supervisors, Henry Budwig and Edward Burbach.

As the world center for the development, preparation and distribution of medicines shifts from the European continent to the United States, expected growing pains have afflicted the packaging departments of the pharmaceutical houses of this country.

A typical instance concerns the Winthrop Chemical Co., Inc., and Winthrop Products, Inc., both subsidiaries of Sterling Drug, Inc., Rensselaer, N. Y.

Although well past its 25th birthday, Winthrop experienced its greatest growth during and since World War II. As for Winthrop Products, founded in 1941, through which Winthrop pharmaceuticals are distributed to physicians all over the world, its recent growth has been at a pace five times as fast as might have been normally expected. In other words, it has been said of Winthrop Products that in three years it has made more introductions of medical preparations to foreign countries than would have ordinarily been made in 15 years.

The necessary coincident expansion of Winthrop's packaging program has been guided by its 10-man packaging committee, headed by Nelson E. Williams.

Tablets to be packed range from Novocain "pluglet," which bulks 42,907 to the pound, to bread-enrichment tablet, five of which make a pound.

Organized a year ago, the group meets monthly, with complete as possible standardization of packing materials one of its ultimate goals.

Today more than 200 different products are sold abroad by Winthrop Products. To meet language and legal requirements of the different countries, these 200 products are packed in 4,500 different forms and require 5,500 different labels and package circulars. The labels describing the medicines presently require nine different texts to be accepted and registered in various parts of the world.

The packaging of Winthrop Products' items was formerly carried out in New York, but in 1945 this was centralized with Winthrop Chemical Co. in Rensselaer. Its greatest distribution is through the Latin American countries. Now increasing in importance are the Middle Eastern market and Turkey and just opening up are the European Continent, China and India.

The domestic market has not stood still while advances were being made abroad. The revolution required in the Winthrop packaging department during the past several years has been as drastic as could be imagined.

Today, expanded in physical size during the past year 60 to 70 per cent, Winthrop's packaging department with nearly 600 employees handles in all, for both domestic and foreign markets, approximately 7,500 different packings to prepare some 900 products.

Five main divisions comprise the whole packaging department. They are the main domestic division of Winthrop Chemical Co., Inc., of which Oscar Norris is manager; Winthop Products, managed by Walter M. Miller; the Demerol Division, managed by R. Horsfall and C. Palmer, which requires special handling because it is subject to different government regulation; the Elixir Division, managed by F. S. Vrooman; and the Arsenicals Division, which is under the management of F. E. Sanderson.

The difference in the operation of a complex medical packing organization from smooth "straight line flow" of packaging a single product is thus exemplified: the tablets alone that must be assembled, inspected and properly packed range in size from tiny Novocain wafers called "pluglets," of which 42,907 are required for a pound, up to Jumbo Bakers' Bread Enrichment Tablets, five of which weigh a pound.

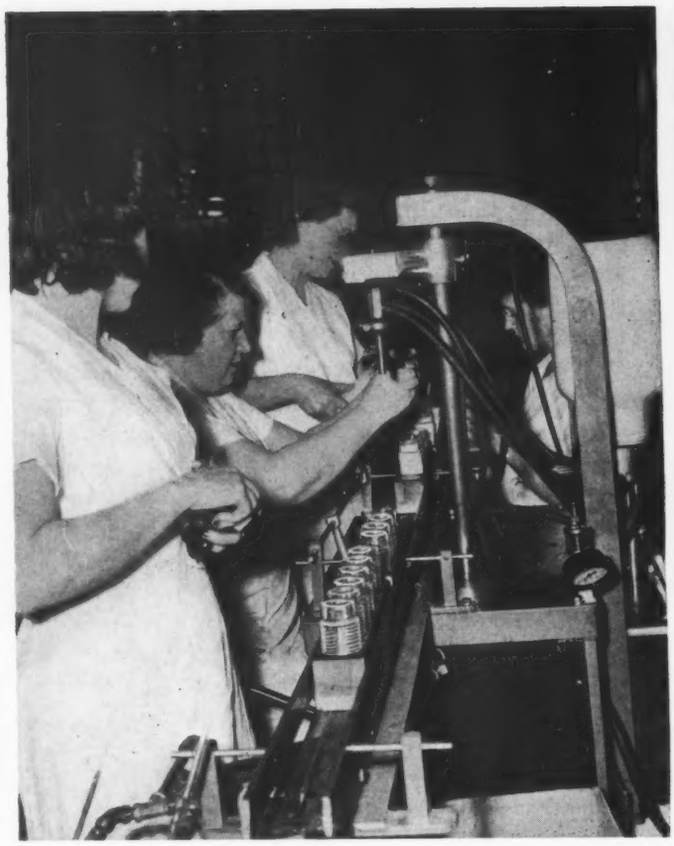
Instead of "straight line flow," medicinal packaging must be conducted through a series of isolated laboratory compartments. There are 20 such glass enclosed compartments on one floor alone handling the domestic packaging for the Winthrop plant. These compartments may be changed over from one operation to another so that two or three different operations may utilize the same belt at different times. But the change-overs must be made with extreme caution and the isolated compartment properly identified with the name of the product being packed, with sign changes made as required. No two products similar as to size or shape are ever packed in the same area at one time.

Every possible control to insure both quality and quantity against human and mechanical error must be installed and kept constantly in effect. Tablets, for instance, are accurately weighed in bulk form and then check-weighed after packing. Samples of each batch charged to the packing department must be sent to control laboratories for analysis. Each batch has its own control number. Inspections are made at each point of the packing procedure.

The packaging committee discusses and disposes of all immediate packaging problems at its monthly meet-

These shelves show just a few of the 7,500 different packages—including bottles, ampules and vials—required for the 900 Winthrop products.

Washing and sterilizing of bottles is all-important in the elixir packaging department. Use of standard-shaped bottles simplifies the operation.



The elixir department bottles 17 different elixirs, 10 ointments and several other products. All are filled by automatic vacuum machines.

This equipment counts tablets of varying sizes and fills them into tins and other types of packages. Monthly output reaches 50 million tablets.

ings. In addition to Mr. Williams, membership consists of Henry Budwig, supervisor of design of all printed material for new packages for Winthrop Chemical Co.; Edward Burbach, supervisor of design for Winthrop Products; Mr. Norris, manager of the Winthrop Chemical packaging department; Mr. Miller, manager of the Winthrop Products packaging department; Hugo Vogel, chief purchasing agent; Harry Andres, who purchases packaging materials and carries inventory records; Joseph Camp, supervisor of light testing and printing of ampules; and J. Keith Borland, director of product quality control.

Mr. Williams believes the committee is really making headway in its standardization goals, aimed at insuring highest quality and efficient maintenance of packing supplies. Standardization of shelf containers, which seems on the way of settlement, shows what type of accomplishment is sought along this particular line. For some time shelf containers for overseas shipments have been designed to hold units following a straight metric system (units of 10, 25, 50, 100, etc.). Domestic containers at the same time were packed with dozen units, beginning at $^1/_2$-doz. lots. The committee hopes soon to standardize the latter.

Standardization of supplies such as bottles and cartons is assuring Winthrop of stable amounts, according to the committee chairman. Some of the high cost of packaging is being avoided in this way. In bottles, for example, Winthrop today has no private molds. All the bottles in Blakes, imperials and rounds are standard with the manufacturer. These bottles range in size from 5 cc. to 1 gal.

To assist in achieving eventual 100% standardization and to maintain what standards have already been adopted, Mr. Williams as committee chairman maintains a file which gives packaging data on each product. Thus, if a product can be packed in a $2^1/_4$-oz. oval amber bottle, that fact is duly noted, together with such information as the exact size of label, folding carton, shelf container and shipping case.

Obviously, so complex and diversified packing procedures as are represented in medicinal houses must be knitted together firmly at one point. At Winthrop all orders for preparations to be packed for shipment or warehousing flow through the central order department. There the original forms for starting the packing job are made out. At the packing department control cards are assigned and label numbers given. With complete packing analysis attached, the order goes to the packing unit involved, where the orders are counter-checked and the order clerk checks to provide the needed packing material. Finally, the work is assigned and when completed is rechecked before cases are sealed for shipping.

To follow orders through the several different divisions further emphasizes the complexity of pharmaceu-

In this ultra-modern building, arsenicals are packaged, under Government supervision, in an isolated sterile room. Ten different arsenical preparations, made in so many forms, require more than 300 different labels.

tical packaging. In the Elixir Division, for example, managed by Mr. Vrooman, a segregated and autonomous packing department is devoted to the bottling of liquids and the tubing of ointments.

The Elixir Packing Division is adjacent to the place where most of the liquid preparations to be packed are manufactured. An exception involves a strong antiseptic solution, Zephiran, which is piped about 700 ft. from a different building. The division bottles 17 different elixirs and 10 ointments as well as Creamalin liquid and Marinol Emulsion.

All elixirs are bottled by vacuum filling machines. Ointment filling machines with a capacity of 48 tubes a minute can be adjusted for the different ointments and the different sized tubes. The standard automatic equipment used automatically cleans, fills, seals and controls each ointment tube in one operation.

This division requires 212 different labels and the bottles filled range from 1-oz. size to 1 gal.

Under control of the Federal Narcotics Bureau, the Demerol Division operates in its own building under lock and key. Government regulations require that all narcotics must be accounted for down to the last grain. Thus, in this complete plant within a plant, this particular drug is packed in tablet and liquid form in bottles and also in vials and ampules. The process is all by hand, with elaborate checks and counterchecks.

For 15 years Mr. Sanderson has been supervising the packaging of the arsenicals, which also are under special government regulation. Now in a newly-completed and ultra-modern building, some 10 different arsenical preparations are packed in so many different forms that a total of more than 300 different labels are required for containers holding varying dosages and headed for different destinations.

Extreme precautions must be taken in filling and sealing the ampules in which these arsenicals are packed. Each must be sealed under vacuum by hand burners using air and gas and at the end given what is called a high-frequency spark test to be sure that the vacuum has been maintained.

Winthrop has developed an interesting color system for labels on the arsenicals. Blue indicates the smallest dose, graduating up through yellow, to red, to green, to black, which represents the maximum dose.

Because most pharmaceuticals today are chemical preparations, one final point involved in packaging is the length of the names sometimes involved—names that must be printed in full on small labels that must also include warnings, dosages and other instructions. The packaging of arsenicals, for instance, might involve the designing of an ampule, a nesting box and a shelf container for some preparation such as dichlorophenarsine hydrochloride or acetylglycarsenobenzene. Problems like this make packaging standardization and control extremely important.

1. This prefabricated case liner, of a special type that is waterproof but permits "breathing" action, is wrapped around high-precision telephonic equipment, mounted on base of packing case.

EXPORT PACK

Better protection at lower cost is the justification of the package engineering section; here's an example

by W. H. WILSON*

The criterion of merit of a shipping container and of the methods employed to insure article protection is performance in service and cost to the shipper.

Industry has come to realize that packaging may well be a determining factor between profit and loss. Annual losses to a manufacturer because of improper unit packing present prohibitive totals for industry as a whole. Progressive concerns are instituting package design and specification sections and are thereby availing themselves of the services of qualified packing consultants. What constitutes best performance at lowest costs can be best defined by experienced personnel.

Export shipping, particularly, presents to many concerns a myriad of problems with which they are unfamiliar. Many standard though uneconomical packing methods have been evolved by industry. Comparatively few have been analyzed by the specialist. However, when such studies are made many inherent weaknesses are found.

To illustrate the potential savings through container design a comparison between an accepted industry-wide packing method and that developed by our package engineering section will be cited. In comparative analyses the following percentage gains were realized:

45% reduction in packing material costs,
30% reduction in packing labor costs,
50% reduction in gross weight,
60% reduction in cubic displacement.

An annual saving of many thousands of dollars was thus accomplished.

The above savings were produced in the packing of a high precision telephonic unit which consisted of innumerable interworking parts adjusted for final installation. Unit dimensions approximated 2 in. by 3 in.

* In charge, Packaging Section, Federal Telephone & Radio Corp., Clifton, N. J.

by 12 in. and its delicacy prohibited the adoption of any standard pack. Further, it was susceptible to critical damage from shock, distortion or moisture. It was also to be shipped into regions of adverse climatic conditions. It had to withstand prolonged storage, salt spray—in fact, all hazards of export shipping.

Previous standard packing had been costly due to double casing, the inner case being floated in excelsior or shredded paper. As a result, the amount of lumber used in the two cases and the volume of cushioning material necessary (due to the unit weight) were excessive. A dehydrating agent in substantial volume also had to be employed, as the area of the inner case was large and dunnage was employed to block off the unit.

Obviously, to obtain any substantial savings it must be realized through a reduction in materials, case fabrication and packing time, gross weight and cube. The following was accomplished:

A previously employed harness was adapted to suspend the unit within its framework. The base of the harnessed unit was then mounted on six rubber cushion mountings which were bolted through the skids of the bottom panel of the case. Top, side and end panels were next framed around the skidded unit, leaving $1^1/_2$ in. clearances on five surfaces. A completed unit was packed thus and subjected to a series of tests which were designed to simulate severe shipping conditions.

On inspection it was found that no damage had been incurred by the unit. Satisfied that the unit was adequately protected from shock or distortion, it had yet to be protected from moisture and salt spray damage.

So, in cooperation with a number of case lining manufacturers, sample cases were lined with various types of materials. Into these the unit parts, most susceptible to moisture and salt spray damage, were placed and tested, each being submitted to humidity chamber test cycles, water emersion, spray and outside storage. In addition, samples of preformed unit envelopes were tested for assembling time and ease of operation.

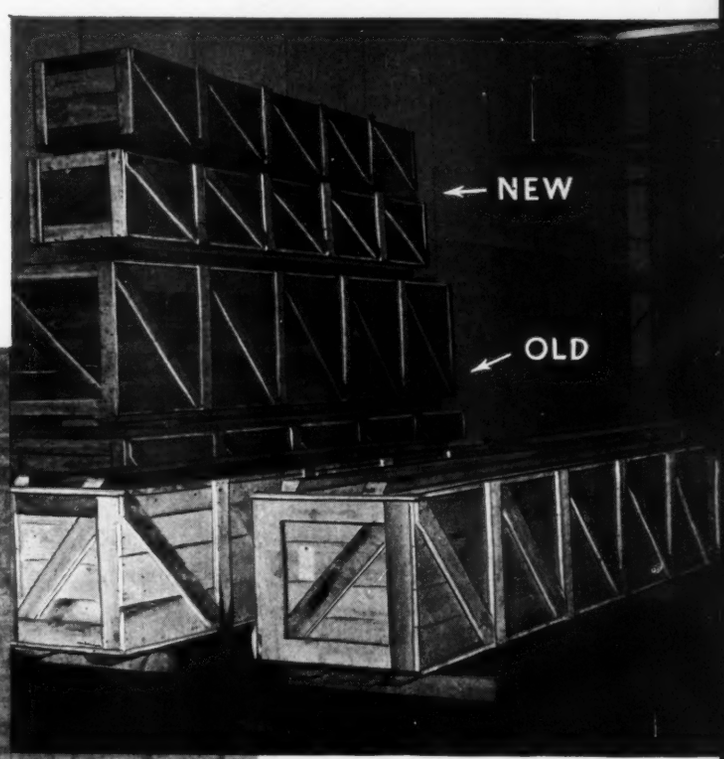
The case lining selected was a waterproof material which needed no dehydrating agent. The material functioned as a breathing package and prevented damage resulting from atmospheric conditions.

The shipping department found the material preferable because of its durability and easy handling. It could also be electrically heat sealed or sealed with a patented vinyl cement.

Fig. 3 offers a visual contrast of the size of the old double case as compared with the new single crate. An adaptation of this packaging specification is particularly applicable to large and delicate shipments.

CREDIT: *"Aquastop" case liners by Protective Coatings Corp., Belleville, N. J.*

2. To complete the moistureproof envelope, it is only necessary to weld the top seam with a special type adhesive from a pressure gun.

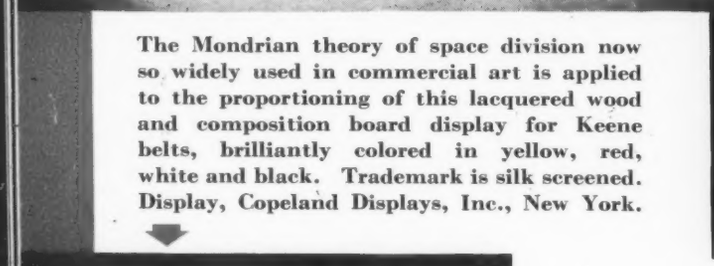


3. Two small cases on top of the stack at left are final packs by new method, contrasted with large double cases previously used. Saving in packaging material is 45%.

MP Display

This point-of-sale display piece for General Electric bulbs, one of a series patterned after the company's advertisements in nationally distributed magazines, is of paperboard lithographed in full color. Several such pieces are used during a year. Three of the most popular sized bulbs are reproduced, with the price alongside of each. Lithography, Niagara Lithograph Co., Buffalo, N. Y.

Similarly designed, these display cartons for Pestroy, product of Sherwin-Williams Co., clearly differentiate the two types of insect powders—one containing 6% DDT and the other 10% DDT. Display, Rochester Folding Box Co., Rochester, N. Y. Dispenser package for Pestroy 10%, Cleveland Container Co., Cleveland, Ohio. Label design, Wenger Studio, Cleveland.



The Mondrian theory of space division now so widely used in commercial art is applied to the proportioning of this lacquered wood and composition board display for Keene belts, brilliantly colored in yellow, red, white and black. Trademark is silk screened. Display, Copeland Displays, Inc., New York.

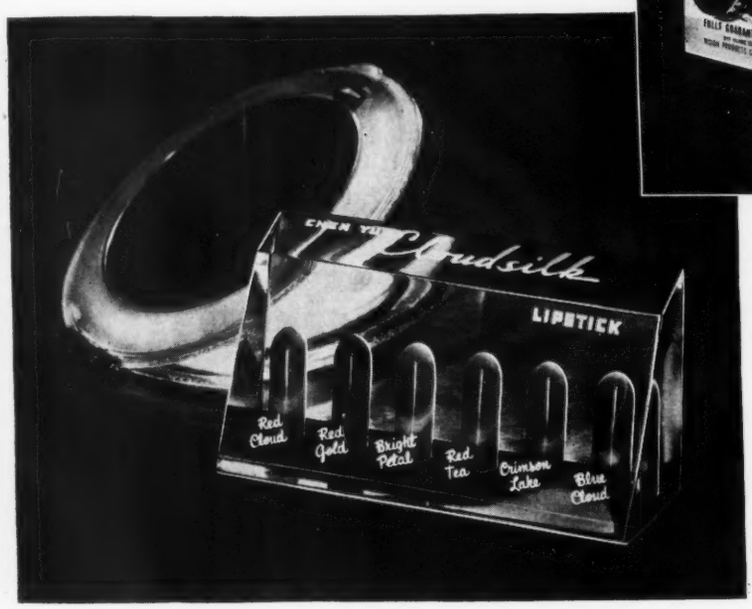
Round lithographed counter and window cards for promoting Dermetics cosmetics are featuring full-color reproductions of famous models. With "Sunrise-to-Beauty" package, it forms an attractive display. Display card, Einson-Freeman Co., Inc., Long Island City, N. Y. Container, American Coating Mills.

Gloss-finish chipboard cartons for RCA's flashlight batteries are designed in red, white and black and open into self-serving counter displays occupying only 5½ by 8 by 6 in. of space. Carton, Container Corp. of America.

Gallery

Genie, Knapp-Monarch's trademark figure, calls attention to the Magik Mist insecticide bombs in this paperboard display piece. Three bombs fit on the display and a center pocket holds informational folders. The slogan "Don't live in a 'Bug House'" appears on the base. Design, Ben S. Read, St Louis. Display, Bruce-Burgess Printing Co., St. Louis.

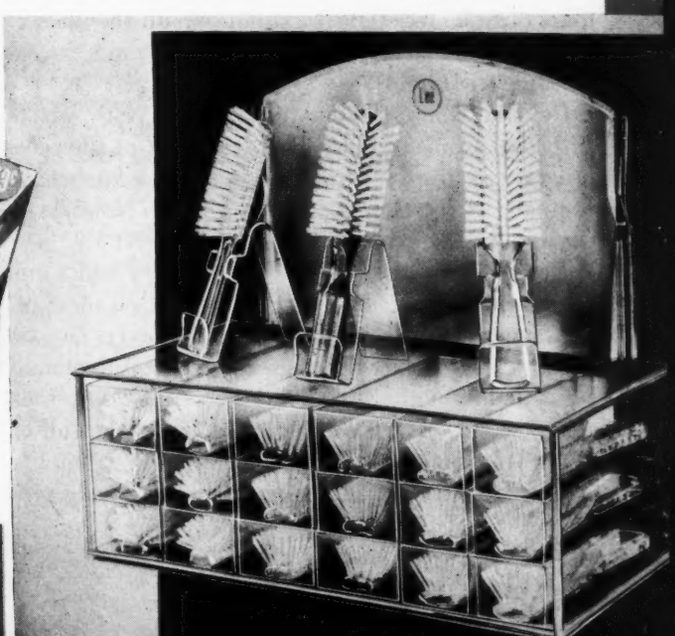
Flight sunglasses made by Vision Products Co., Inc., convey an outdoor feeling on these full-color, die-cut and scored paperboard displays. Openings on the wheels of the bicycle display hold two pairs of glasses, one for men and one for women. Back piece of the other display shows a man and a woman, indicating glasses are for both sexes. Display, Art-Copy Associates, Newark, N. J.

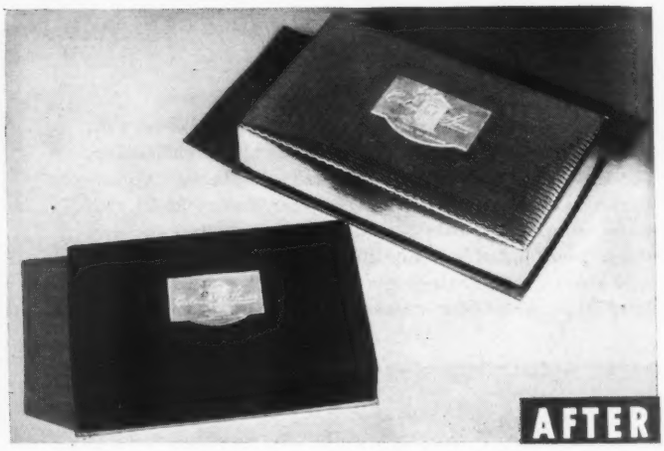


Small enough to fit in the hand, this acrylic display for Chen Yu Cloudsilk lipstick enables easy selection of shade desired. Trade name is lettered on beveled top; lipstick shades appear on sloping front. Display, Charles Victor Co., New York. Plastic, Rohm & Haas Plexiglas.

Storage space for product and a full view of brushes in upright position is afforded by this acrylic display case for hair brushes made by Lee Products, Inc. Mirror forms back piece. Plastic, DuPont Lucite.

Ace combs, made by American Hard Rubber Co., are being merchandised in this striking red and white barber-pole striped combined shipping unit and display carton. A die-cut and scored insert forms compartments for the various sized combs. Each of the combs is packaged in an individual folding box. Design, Robert Fondiller and Howard Ferguson, New York. Display, Fort Orange Paper Co., Castleton-on-Hudson, N. Y.





Trademark design formerly used on Colonial House candy boxes was too large for use on three of the five items in the line. It is barely discernible on the other two.

Redesigned packages enable use of the new trademark on all of the packages. It is equally effective reproduced in large size as when used on small embossed foil labels.

SIMPLIFYING a trademark

A whole house was too big for small packages, so Colonial House Candies switches to a simple, friendly doorway as design theme

Sometimes trademarks with too much detail are unadaptable to space requirements of a package, particularly if the packages are small. Such trademarks can be redesigned to maintain all the identifying elements, but to be more flexible for use in a variety of package treatments.

Colonial House Candies of Irvington, N. J., was faced with this problem, but solved it as part of the redesign program for the five boxed candy assortments which the company sells through its stores in Newark, East Orange, Union, Elizabeth and Passaic, N. J.

A house of Colonial style architecture had formerly been used as the identifying trademark on most of the packages. On the smaller boxes, however, the trademark was never used because space requirements necessitated reduction to a point where the house was unrecognizable. Even on the larger boxes the full effect of the trademark was lost because it was so small.

Adoption of a Colonial doorway as the trade symbol now permits use in larger form and gives more prominent display, yet maintains the Colonial feeling. The new doorway symbol is particularly effective on small foil labels used on two items in the line, as well as the larger boxes, all of which have been modernized.

Boxes for Thin Mints, DeLuxe Chocolates and Home-Style Chocolates are covered with a cast-coated, high-finish paper printed in magenta, silver and reverse white. Trademark reaches from top to bottom on cover.

The other two boxes in the line are Miniature and Superb chocolates, both of which use embossed foil labels. The Miniature box has a covering of bottle green velour and the label is silver and magenta. Silver lacquered foil covers the Superb box, while the label is in magenta, silver and white.

CREDITS: *Designer, Jerome E. Walter, East Orange, N. J. Coated paper, Kromekote, The Champion Paper & Fibre Co., Hamilton, Ohio. Velour, Louis Dejonge & Co., New York. Boxes, Thomas S. Taranto, Inc., Ridgefield Park, N. J.*

16th Annual
PACKAGING CONFERENCE and EXPOSITION
Philadelphia, April 8-11, 1947

Growth of the packaging show to true national and international stature marked the 16th annual American Management Association Packaging Conference & Exposition in Philadelphia this month.

Among the 18,000 registrants who thronged the exhibits and conference sessions—double the previous year's record attendance in Atlantic City—were representatives of 22 foreign countries. The United States Department of State requested and obtained a half-hour descriptive recording which later was to be beamed by short wave to all English-speaking countries and translated and rebroadcast in 28 languages.

Arrangements were made to hold next year's Conference & Exposition in Cleveland's Public Auditorium, opening on April 25, and tentative agreement was reached on a return to Atlantic City for the 1949 show. It was announced also that in September, 1948, a separate West Coast packaging show will be held for the first time, in San Francisco. The West Coast exposition will not be sponsored by A.M.A., but will be staged by Clapp & Poliak, exposition specialists who for many years have managed the A.M.A. shows.

The attendance in Philadelphia far exceeded the most optimistic predictions and the interest shown fully justified the record expenditures evidenced in the size and equipment of Exposition booths. The A.M.A. had 15,000 registrants' badges ready, expecting that this would provide a comfortable surplus. The 15,000 were gone by midweek, and 5,000 additional registration slips were collected at the door, for an apparent total attendance of 20,000. Discounting 10% for duplications and re-registrations, the actual attendance is estimated by Henry Howlett, A.M.A. secretary, at 18,000.

Actual attendance at the six Conference sessions was 1,233, also a new record.

The Exposition wound up with a total of 185 exhibitors, occupying 95,000 sq. ft. of floor space—50% above last year and about double that of the next previous Exposition in 1944.

The State Department broadcast on Thursday opened with a talk by Mr. Howlett and remarks by Alan S. Cole, chairman of the Exhibitors' Advisory Committee and General Manager of MODERN PACKAGING. Exhibitors and visitors were interviewed from the floor and a roundtable discussion of packaging prospects and problems followed. Participating in the roundtable were E. A. Throckmorton, A.M.A. vice-president in charge of the Packaging Division and president of Container Laboratories, Inc., Chicago; Charles A. Southwick, Technical Editor of MODERN PACKAGING; L. Douglas Kirk, technical manager, Quaker Oats Co., Chicago; and Harriett Raymond, advertising manager, Celanese Plastics Corp., New York. Benjamin Wilbur, of the State Department, produced the program and acted as moderator.

Among other meetings of packaging groups during the week was the 8th annual banquet of the Packaging Institute, held at the Hotel Warwick on the night of April 10. Senator Harry P. Cain, of Washington state, presented an eloquent appeal for support of President Truman's Greco-Turkish aid program. H. H. Leonard, toastmaster, introduced Mason T. Rogers, newly elected P. I. president. On behalf of the membership, W. M. Bristol, Jr., presented to Walton D. Lynch, the outgoing president, a handsome ship's chronometer.

The following condensations contain the substance of all papers delivered at the six Conference sessions:

TUESDAY MORNING

Chairman, OLIVER F. BENZ, *Development Dept., E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.*

How to Sell Packaging to Top Management—WILLIAM J. SANNING, *Director of Advertising, The Kroger Co., Cincinnati, Ohio.*

"How to Sell Packaging to Top Management" might imply that management does not recognize its responsibility for the labels and packages that dress its products, said Mr. Sanning, and that interest in label design must be sold to the officers of the company. In my experience that is not true.

In every contact I have with sales minded presidents and vice-presidents I am impressed by the pride that they have for their labels, trade-marks and package designs. Aggressive management knows the value of label design, and recognizes the important place it holds in merchandising and sales strategy.

Management may not and need not know the details of packaging — the need for design changes — the trend in labeling, and the advantages of modern improvements. It's our job to know that.

That is why you and I attend conferences like this one, Mr. Sanning pointed out. That is why we in the advertising and merchandising departments of our companies have been charged with the responsibility of keeping our packaging plans and label designs up-to-date and in harmony with our companies' sales policies.

It's our job constantly to evaluate our packages and labels. It's our job to develop plans for improvement and sell our program to management.

Fortunately, in most aggressive companies a sound program is readily accepted by top management, he went on. But it must be sound — it must be thought through. First, it must evaluate the sales possibilities of a label change in relation to costs. Second, it must be integrated with management's thinking and fit the sales and merchandising policies, both current and in the future.

It is my experience that when a label program is thought through in terms of management thinking, the selling job to management is successful.

But the job of selling doesn't stop there — it begins there.

Our package and label designs must have the confidence and enthusiastic support of every salesman, dealer and store clerk. If the program involves a change in the design and color scheme of an old well-established label, there may be resistance to that change in the field. Management, when approving the

change, recognizes this and charges us with the job of selling all the way down the line.

If the label change is slight—a modern styling of an old trade-mark—and a cleanup of typography and layout, Mr. Sanning claimed that the job of selling is usually simple. But when the change involves—new layout—new color schemes—even a new name on a whole family of products — the job of selling is vital to the success of the program. The job of selling all the way down the line must be *thorough* before the new label is presented to the consumer. It must be accepted by the whole organization before it appears in advertising and store display.

In a self-service store the customer herself selects the merchandise. The clerk or the manager is not in a position to determine her choice. If we put four brands of canned peas in front of the customer, the selection is entirely up to her.

In Mr. Hall's talk to the grocery manufacturers of America last November he keynoted Kroger policy with these words:

"We operate a merchandising democracy. Our public — the customer — votes every day. Each brand is a candidate — and it is elected by being selected. The winning brand is the brand with the most customer choices. We do not stuff any ballot boxes. Our cash registers are guaranteed to give an honest count."

Under that policy our merchandising departments are charged with the responsibility for total sales. In such a merchandising democracy private labels must sell alongside of well known names in self-service stores where the full responsibility rests with the label and brand name acceptance in the customer's mind. The customer votes, she elects those products that she selects from our shelves — those products well known to her through the confidence she has in the brand name. The name Kroger is well known to our customer through the confidence she has in our stores. Better known than Country Club, Avalon, Her Grace, Latonia Club — the name "Kroger" is a logical name for Kroger products.

When this decision was made, the next step was to develop the program, carry it out in detail, and then sell it to our merchandising, manufacturing and field organizations. Not only do we operate a merchandising democracy with reference to customers and brands, but our company is an operating democracy. Four division managers — 26 different branch managers, their staffs of merchandisers and field organizations, must be in agreement with all major policies.

How we sold the new label program to our total organization, starting with division and branch managers, and extending it down to the youngest store clerk, is an interesting story.

Mr. Sanning explained that the program was broken down into two parts:

1. The design phase — which included the redesign of 154 different items under a new label.
2. The presentation phase, which started with a presentation to branch managers and division managers and was finally extended to cover branch and store personnel.

Each presentation was built to suit the audience. Top management was shown the actual package sketches as they were developed. Presentations to branch and division managers were made in larger meetings where photographs of the designs were shown with a glass slide projector. For branch and store personnel meetings, a sound slide film was prepared and finally before a new label is released to the stores, colorful selling broadsides are sent to each store manager, enlisting his enthusiasm for the label before he gets it.

The importance of getting agreement in each department charged with responsibility for the product was not overlooked. Representatives from the manufacturing department, merchandising department and sales promotion attended all of the conferences with our designers and were given opportunity to comment and express ideas. Full agreement was obtained before a new design was accepted. The field organization was represented by four division managers, who approved the designs as the work progressed.

When the basic design was finally approved it was applied to 15 items that represented the various commodity groups in the total program and these prototype packages formed the basis of our first presentation to our branch managers. It later was enlarged and dramatized on a sound slide film for all personnel.

At this point Mr. Sanning showed the glass slide presentation just as it was used to sell an organization of 20,000 people, from branch managers down to the youngest clerk.

The presentation covers five important points, he concluded — deliberate steps that build the argument for the new labels.

Step 1—Project the need for a redesign job. This section reviews the old packages and labels and points to the need for a brand name that will be better known to our customers and a package design that will integrate the total line into a family of products.

Step 2—Select a competent designer. Raymond Loewy Associates created the new Kroger label. In our presentation we emphasized the importance of good design and described the reputation that Raymond Loewy and his organization have by showing some of the design projects that have helped to build that reputation.

Step 3—Describe the important details of the design change and give the reasons for them. Here we present the new trademark, the new design scheme and the new color scheme.

Step 4—Present the new labels on each of the important commodities and describe the reasons for details and variations.

Step 5—Describe how the new label design will be integrated with company advertising, promotion and publicity.

A Program of Packaging Cost Reduction—JOHN A. WARREN, *Package Consultant, American Home Products Corp., New York, N. Y.*

At the outset of his talk, Mr. Warren stated that under the packaging program of American Home Products, there is no magic formula for reducing package costs.

What we are doing today, he continued, is just hard ground work overcoming war induced inefficiencies, package substitutions caused by the war and shortages of materials. All of our subsidiary companies are self-controlled companies; self-centralized and managed right in that organization and we, in the parent company, can only assist them by making suggestions. We manufacture medicinal products, food products, packaged drugs, household products and cosmetics.

In our operation, he declared, we use all types of package materials including ampuls, capsules, glass jars, glass bottles, collapsible tubes, plastic closures, metal closures, plastic containers, plastic films, folding boxes, fibre and steel drums, corrugated fibre cases, flexible bags and metal cans. To produce this full line of merchandise, all types of hand-operated, semi-automatic and completely automatic packaging equipment are used. We cannot see in the near future, any immediate relief in the cost of packaging. We believe that the labor cost of our packaging supplier is here to stay. We are hoping that by the introduction of more efficient equipment and better methods, our packaging material costs may decrease from its present high rates. However, we cannot afford to wait until this happens, Mr. Warren said.

We, therefore, have a plan in which we are reviewing all of our packaging costs. Let us state our definition of packaging and what goes into packaging costs.

We expect all of our merchandise to reach the hands of the consumer in perfect condition, therefore, all phases of packaging must be set up to meet these standards:

1. The package must have consumer acceptance.
2. The material must be readily procurable in the current market.
3. The package must protect the contents so that it is a readily salable unit by the ultimate dealer.
4. It must conform to slack-fill laws and the labels to pure food and drug regulations.

5. The package must lend itself to efficient operation on equipment in the plant where it will be produced.
6. A simple unit, such as a shelf container, must be so sized as to make for a minimum amount of handling in our warehouses and wholesalers' warehouses where the master case may be broken down into smaller units.
7. The master case must be in units in conformity with the freight channels in which it will travel.
8. The master case must be so designed that it can travel safely in any of the recognized channels of transportation running the gauntlet from carload shipments to parcel post.

Ninety-five per cent of our packages are consumer packages. Our packaging costs run from 7% of the selling price to as high as 85% of the selling price. Therefore, in re-examining our costs, we have re-examined our packaging material costs and our packaging labor costs.

For example, we have not had available for our export packages, the kind of material that we would like. We, therefore, are confronted with this problem, Mr. Warren explained. We have on hand many packages in our warehouses packed for domestic packing. In the past, we have exported these in wooden cases. The cost of the wooden cases ran from 84¢ to $3.14 a case and would hold from four to six dozen of master domestic cases. In our distribution set-up, in certain channels we pay the freight, in others, the distributor absorbs that freight. A wooden case which has a tare of 40 lbs., means that the distributor who handles it must absorb an additional cost of 40 lbs. from the docks to wherever he may receive his packages. That becomes a very costly item. Again if he takes that wooden case out of customs and has not ascertained before it has been taken out that it has broken packages therein, when he files his claims for losses, he can never recover his custom duty.

To overcome this, the first thing that we did, where permitted, was to repackage in solid fibre cases instead of wooden cases and on an item that formerly cost us 40¢ per dozen to ship from New York in wood, with fibre cases we reduced the cost to 5¢ per dozen. On glassware items it is not advisable to use fibre, so we have gone to double-wall corrugated and in some instances to 275 lb. test corrugated.

In the past six weeks, Mr. Warren revealed, we have been getting reports from our distributors and find that about 98% of our goods are arriving in the Latin-American countries in good condition. In the future, we hope to set up export package specifications at the domestic company manufacturing stage so that we may ship directly from the plant instead of having them sent to warehouses for repacking and steel strapping.

In South American countries, because of the economic situation, we do not sell our drug line as we do in this country. Our smallest unit of Anacin in this country is a tin of 12. In South America, we sell two Anacin tablets. This is expensive packaging. In the past, we have used cellophane tape in a match box style cover. The cover is expensive and often becomes frayed. We have recently changed that style of packaging and are now taking advantage of transparent films and running this type of product on Transwrap machines. Our saving in one item in three countries in South America with the new type of package this year will be well over $30,000.

We have run into a great deal of trouble in the Latin-American countries. We manufacture Kolynos, Bisodol and one or two other products in five of the Latin-American countries. Under the laws of those countries, it is very difficult and very expensive to ship finished cartons from this country. At times, we do ship board when we can but usually we rely upon our foreign subsidiaries to obtain their cartons from the local manufacturers.

Gentlemen, Mr. Warren emphasized, I want to tell you, those fellows can put to shame many of our large American folding box manufacturers. They make an excellent carton! There is one difficulty, particularly when they buy boards for containers. They do not seem to be able to get any chip down there. They have to buy patent coateds. Their special prices landed, dock down there at about $210. In order to overcome that condition, we have recently adopted paper bags and we find it extremely satisfactory. We have a tenter arrangement, a little piece of equipment, with which we can load cartons into the bags as fast as we can load them in chipboard.

One of the difficulties we have, particularly in our cosmetic companies, is the variance in sizes. In a re-examination of the syndicate store merchandise of one of our cosmetic companies, we found that they had seven jars for seven different products with four different sizes among these jars. The net weight contents of the jars ran from 2/5 oz. to 3/5 oz. A study of the cost of the raw material used in the product showed that if we increased the price in all seven items to one uniform and standard rate, our additional cost of raw material was infinitesimal.

As a result, where we formerly used seven different jars with three different type metal and plastic caps and four different liner specifications, we are now using one jar, one cap and one liner specification. As a result, where we formerly had to hand-cap four of those items, we are now automatically capping all seven.

In one of our organizations packing 3,000 items, in collapsible tubes alone they are using 156 sizes. This means 156 tubes, 156 circulars, 156 cartons, 156 shelf containers and 156 corrugated cartons. We believe, from our primary survey, that we can reduce this from 156 to possibly 42, or at the most 45 sizes without increasing our over-all costs.

In lines such as ours, there are a great many package inserts or booklets. The sizes of these booklets ran all over the map. One organization had some booklets from 1 by 4½ in. to 5 by 20 inches. In organizations where we have packaging machinery, we are standardizing on the size of our booklets and we are getting after the advertising departments to get some of the garbage out of that booklet and get into it just specific facts.

We have done it in one organization. We have reduced four sizes down to one, 5 by 5 in., and decreased the cost of our booklets within that particular organization 42%.

One of our household units today has a family line. They use standard four-color process colors: two blues, a yellow and a red. Within that line, they have some 62 items. In today's market, we find we need all of them in three colors, with the majority of them in yellow, red and dark blue. For five of these items we find that a year ago we paid approximately $4.62 a thousand average price for cartons. Now the price has gone up to over $7.50! We are not going to accept it. We are going to take advantage of the four-color combination sheets that are being run throughout the country. We have found four of them — some in 10,000 sheet runs, some in 25 and some in 50. The frequency of the run is from 45 days to 90 days. On three items where we had requested prices on 250,000 we had formerly been quoted $6.00 per 1000 in unit quantities of 250,000. On the four-color combination sheets, we can buy these cartons in 50,000 units for under $5.50.

One of the most expensive operations we have is where we use a bag and a carton. Up to the present time, the operator has had to handle a bag, fill it, pass it on to a second operator who seals it, a third operator who examines it for leakage, a fourth operator who puts it in a reverse-tuck carton, then into a display container and a corrugated case. The majority of these lines are packing 10¢ items. Our package costs — our direct labor costs on those items are running as high as 36¢ a dozen — extremely high production costs. We are substituting, for many of those items, a fibre can and our experiments on two items show us that where we formerly had a production rate of 450 packages per man hour with the fibre can method we now have a production of 900 per man hour — an increase of 100%. We found that with the new fibre can packages we are saving approximately 12¢ per dozen.

In some of our units we pack as many as 3,000 items. Most of these items are packed ultimately in folding boxes. The units of sale are never very great. They do not lend themselves to automatic or semi-automatic equipment because of the multi-

plicity of sizes. Therefore, we recently instructed our procurement agents that when they purchase cartons, particularly reverse-tuck cartons, they insist that four scores be broken on the available six-set machine of International Folding Paper Box or similar equipment. We are insisting on it and find that we have an increased production on carton loading of approximately 29% in six operations.

A great many of our cartons are run on highly automatic cartoning machines. We have some 94 of these machines. Today, our specifications to folding box manufacturers for cartons to be run on these machines are rigid and they are going to continue to be rigid from here on in. We feel that there is an art in making a good carton for automatic operation. We know of no reason why we should not have cartons properly made.

In ordering cartons today, with each run that we order we give the carton maker a blueprint of the way we want that carton manufactured. Some of the difficulties in automatic carton manufacturing have come from the fact that a carton from the last run is approved for size and style. All the errors that have crept in from a previous run are continued by this practice. We insist that each order be treated as if it was an initial new order. We also have a number of other requisites within those specifications. We insist that each die be numbered; that cartons be run in the season in which they are to be used; that all of our cartons come in corrugated cases, not tied nor bundled. They must be in layers no higher than four tiers to a carton.

On all of our automatic cartons, we keep them in controlled warehouses. When a carton is to be used, it must be brought into the manufacturing room at least four hours before it is put on the machine. We have just finished a test last month on a machine where we have put these initial specifications to work. We have found that our production increased on an average, for a three months period, from 90 cartons per minute to 140 cartons per minute. In one or two periods where we needed increased production, we have run two machines 238 cartons per minute for a period of two weeks.

At the end of our cartoning machine, in a number of our operations, the cartons are packed in display containers. Many times, in the past, we have used one-piece blanks that had to be set up at the end of the machine. This practice has been discontinued wherever we use automatic packaging machinery and we are now using a filled carton or something similar. This is saving us an operator per machine. An operator per machine—some being paid as high as 95¢ an hour — adds up at the end of a year.

One thing which has bothered us a great deal, is the increased cost of shipments. I recently had prepared for me a comparison of shipping rates as of March 24th. Our average drug and cosmetic case, leaving our warehouse is 35 pounds. We ship approximately 5,000 a day from all of our units. It was very interesting to note that under the new proposed parcel post rate and under the proposed express rate, there is a difference in the shipment from New York to Philadelphia of 67¢. There is a difference between New York to Philadelphia of 35 lbs. on parcel post and 61¢ on less truck loads. There is a difference of 31¢ on 35 lbs. between New York and Philadelphia between parcel post and less carload.

Up until now, we have been rather rigidly following Rule 41. Rule 41 as it is written leaves the inside packaging of the case to your discretion. We are now packaging all of our drug and cosmetic items to ship parcel post. We believe that good shipping case design comes from the interior of the package and not from the outside and are using better nesting and dividers than we have ever used before.

In shipping containers, we recognize (partially, not completely), some of the difficulties of the fibre case manufacturers. We note that where we procure from certain mills, we get cases that meet the Rule 41 specifications fairly well on Mullen tests. We note that when we buy from certain other places, we have difficulties. When we tell them their cases do not meet specifications, we are always confronted with, "I can't get any better board." Well, we will go along with that for a short time but we will *not* go along with that situation where we are using fibre cases on Standard-Knapp equipment.

In our Clapp's baby food line, we have five Standard-Knapp units. We recently made a test in one of the Clapp plants and we found that the over-all size of the case from five different manufacturers was the same but when we made them from score line to score line we found variances from between 1/8 to 5/16 of an inch. Now, we think that the time has come when we must have good construction in corrugated cases. We made a test at Clapp that was rather interesting. We have had difficulty in loss of production on our Standard-Knapp lines. We have had difficulty in our warehouses. We pack Clapp's baby food as high as 40 ft. so we want a square case. We asked corrugated case manufacturers to submit cases made to our specs. We have used it. We got an increase of 12½% in production in our Standard-Knapp equipment and our warehousemen have had less trouble in stacking.

In concluding, Mr. Warren said, this is only a part of the plan that we are trying to follow up. We cannot offer any prescribed plan. From this program of ours this year we believe that we will show a saving of approximately $250,000 in packaging and packaging processes. And we believe that a similar program may be adopted by everyone.

TUESDAY AFTERNOON

Consumer Packaging Clinic—*a panel session.*

Chairman: HENRY J. HOWLETT, *secretary, American Management Assn.*

Panel members: BENJAMIN L. WEBSTER, *industrial designer, New York;* CHARLES E. WARING, *vice-president for research, The Davison Chemical Corp.;* E. P. TIBBETS, *production manager, Bristol-Myers Co.;* JOSEPH GIVNER, *president, National Merchandising Corp.*

MR. HOWLETT: This session will be devoted to a discussion of actual problems on consumer packaging that have been received in letters from A.M.A. members. What can be said of the present and possible future uses of plastic or plastic coated materials in food packaging?

DR. WARING: The introduction of moistureproof cellophane a quarter of a century ago inaugurated a new trend in this field. New materials are constantly being used — plastic coated papers for specific purposes, plastic coated foils for their reinforcing properties, vacuum packaging where tightness is important. In addition to protective properties, they have a decorative effect. Each new plastic material fills a specific need — special protective qualities, heat-sealing ability, adhesiveness, etc.

MR. HOWLETT: Is there a machine available for filling pint bottles for products like grape juice at the rate of 300 per minute?

MR. TIBBETS: I don't know specifically, but there is a machine being developed that will label bottles at that rate.

MR. HOWLETT: Is the decorative value of a package important in a general display?

MR. WEBSTER: Yes, particularly in seasonal merchandise.

MR. HOWLETT: What are the advantages of aluminum foil in packaging frozen foods? What have been the economies in processing speeds from actual trials with this type of package and product?

MR. A. B. BRACKETT, *General Foods Corp.:* Foil offers the most water-vapor protection, and if a package can be satisfactorily made and handled in production, it has great merit. Foil for this purpose is relatively new, still in the experimental stages, and it is difficult to answer the question specifically.

MR. T. M. HILL, *Aluminum Co. of America:* I agree with Mr. Brackett. From our experience, where foil is part of the wrap it contributes in the keeping of frozen foods. It is successful as an overwrap.

MR. HOWLETT: What is the best method of displaying sanitary belts?

MR. GIVNER: No display. Use photographs of attractive women.

MR. HOWLETT: Is the pouring spout on a salt package as a convenience, worth the additional cost?

ANSWER *(Mr. Howlett):* Definitely.

MR. HOWLETT: What is the role of vacuum or inert gases in food packaging?

DR. WARING: Primarily for preventing flavor changes.

MR. HOWLETT: How will the removal of restrictions effect production of specialized design of glass containers?

MR. TIBBETS: It depends upon how soon special molds can be made. There are only about 2,000 or 3,000 mold makers and their time is being devoted to keeping existing private molds in repair. Also, special designs use more glass — a product still short in supply. I estimate it will be about a year.

MR. HOWLETT: At what distance should identification on general-line merchandise be legible?

MR. WEBSTER: So that it can be read by the consumer from the distance at which it is to be displayed.

MR. HOWLETT: Would changing of unit packaging from multiples of 12 to multiples of 10 assist in computing inventories?

MR. GIVNER: Two points are involved. Trade practice: it might confuse dealers. Size of shipping containers.

MR. HOWLETT: Is there still a large demand for the types of large counter and floor displays popular before the war?

MR. GIVNER: No, especially the large single unit. Too many items are in competition for that space.

MR. HOWLETT: Should the development of a new package design be in the hands of an expert package designer, the factory or advertising department?

ANSWER *(Mr. Howlett):* It should be a joint effort.

MR. HOWLETT: What is the most effective method of preventing sweating, with resultant rust, in bright-finish steel shipped in box cars?

DR. WARING: For shipping annealing wire, the method widely adopted in recent months is a completely dehydrated pack. There are two ways of doing this: (1) the unit pack enclosed in a water-vapor barrier and (2) the new type of box-car liner, which is in itself a water-vapor barrier, with the addition of a dehydrating agent in the box car itself. The latter provides protection only during shipment, while the former, though more expensive, gives more prolonged service.

MR. HOWLETT: Are one-trip beer bottles now being made?

MR. TIBBETS: Only for export, I understand, because of the glass shortage. Even on the deposit-type there is a quarter-million backlog of bottles. The can is 50% more expensive than the one-trip bottle for the actual package, but considering such other factors as breakage, the difference is somewhat modified.

MR. HOWLETT: Is brand or product identity more important in package design?

MR. WEBSTER: It depends upon the company's over-all promotion policy.

MR. HOWLETT: What is your opinion about unitizing and standardizing groups of merchandise as a retail pool operation for distribution to retail outlets?

MR. GIVNER: Retail pools are good for chain and group-owned stores. They give in one spot records of sales against which you can plan. It is costly for independently operated stores.

MR. HOWLETT: Should the opinion of an expert package designer be accepted as final, or should the design be tested before adoption?

MR. WEBSTER: Designs should be tested, definitely.

MR. HOWLETT: How can you determine the relative importance of leaks in the package versus transmission through the intact film in determining transfer rates of water vapor and other gases?

DR. WARING: In a very representative survey conducted for the military over a year ago it was interesting to find that technique in making the package was probably more important than the choice of original materials. Of course, a good material must be used. We found that even where good materials were used, faulty technique in making closures, rough handling, etc., resulted in ineffective packaging. It is possible to spot-check for pinholes beforehand, but tests are not possible on a production scale. While you can predetermine the life of a material, the only way to achieve protection is through good technique — attention to detail and proper handling.

MR. HOWLETT: What is being done to improve the lip surface of glass containers?

MR. TIBBETS: Beverage bottles are fire finished. Normally the development of proper liners and liner backings for the cap will take up misalignments. A pulp backing lined with aluminum foil and plastic coating will eliminate leakages due to poor seating.

MR. HOWLETT: How closely should package design tie in with activities such as stationery, advertising, etc.?

MR. WEBSTER: Such a tie-in is effective, since it reiterates the design.

MR. HOWLETT: Will foil labels be available in the near future?

MR. HILL: They are available today.

MR. HOWLETT: In setting up an advertising budget, is it preferable to use a percentage of the previous year's sales or to base it on a percentage of sales forecast for the coming year?

MR. GIVNER: The aggressive firm usually bases it on a forecast of the coming year's sales.

MR. HOWLETT: Is there a consulting laboratory for testing cartons?

ANSWER *(Mr. Howlett):* Yes.

MR. HOWLETT: What materials can the supplier provide to extend the shelf life of packages, such as permeability toward gases, water vapor, coating paper with fungicide and bacteriocides?

DR. WARING: So far as fungicides and bacteriocides are concerned, practically all materials that have these properties are toxic in themselves and are excluded from the food and beverage industries, where such protection is desirable. Fungicidal treatment is applicable in the textile field, but the trend is to treat the textile itself rather than the package. Where fungicidal treatment is required, some form of moistureproofing should be adapted. Humidity should be controlled where the problem is one of preventing mold.

For moisture protection, an effective water-vapor barrier should be used — organic plastic films, a metal-foil combination by itself or laminated to paper, or the metal can or glass container. I should like to point out that the shelf life of many materials is just as dependent on keeping moisture in as keeping it out, and the same materials apply in both instances.

MR. HOWLETT: What are the steps involved in package design?

MR. WEBSTER: There are four steps: (1) Defining the problem. (2) Creative work. (3) Development of final design. (4) Putting the package into production.

MR. HOWLETT: What are adequate specifications for a fibre container with metal top and bottom with regard to moisture protection and sifting of product?

MR. TIBBETS: If the amount of moisture protection is moderate, the new laminated labels will afford sufficient protection. A sifter top is not adequate if moisture protection is needed; punch-out holes are better. For a high degree of protection, the metal can with a metal slip-on top is best.

MR. HOWLETT: How can a retailer with several hundred packages test them without tremendous expenditures that advertising agencies recommend?

ANSWER *(Mr. Howlett):* By sample testing.

MR. HOWLETT: What if any changes in packaging techniques have resulted from new methods of distribution and new types of outlets?

MR. GIVNER: New forms of distribution in reaching the ultimate consumer work their way back to every phase of packaging. For example, automobile oils used to be sold at gas stations from large drums. Individual tins may now be obtained from department stores, or even by mail. Handkerchiefs were sold on department store counters; now they are packaged for sale in vending machines, supermarkets, drug stores. Large department store chains which have to supply branches have to warehouse and redistribute products in smaller units. Vending

machines dispense packaged cookies, beverages, etc. Packaging for l.c.l. shipments demand different forms of packaging. New practices of distribution and new types of outlets definitely influence packaging.

MR. HOWLETT: What postwar experience has been accumulated by industry in the utilization of Method II packaging?

DR. WARING: Industry has been reluctant to adopt Method II packaging. This is probably due to the high standards required during the war for military packaging, when destination of product was unknown. Industry need not attain these high standards for normal commercial packaging. Probably some compromise will be reached within another year.

MR. HOWLETT: For a staple generally-used article selling for around $1, which is likely to bring greater return: improvement in quality of container by 2 cents per package, increase of advertising budget by 2 cents, or decrease in price of article by 2 cents?

MR. GIVNER: Much depends upon the type of product. Generally it is better to give more product value.

MR. HOWLETT: How would the cost per thousand compare between a four-color spot label 3 in. by 3 in. and a four-color wrap-around label on a 3½ in. diameter jar?

MR. TIBBETS: Cost is in proportion to space. Since space on the 3½ in. jar would be four times as large, cost would be four times as much. However, cost of putting the label on the jar must be considered. Cost is considerably less on the wrap-around label provided there is sufficient production to warrant investment in a labeler.

MR. HOWLETT: Is it better to use type faces on the design that give the impression of high quality and artistry of type or to provide extreme legibility?

MR. WEBSTER: Much depends upon the product, where it is sold, the price of the item and what the package is intended to do.

MR. HOWLETT: Is there a definite advantage in functional label design where the label illustrates the product or its use?

MR. WEBSTER: If you have a new product or a new use for an old product, it is well to promote it through illustration of its use.

MR. HOWLETT: In designing a package, how much consideration should be given to possible usefulness of the package in the house?

ANSWER *(Mr. Howlett):* Usefulness of the package in the house is of utmost importance. Many manufacturers make certain types of packages merely because of habit, despite the fact that the package is inconvenient for use and could be improved. Examples are the olive jar, ketchup bottle, bag for brown sugar, tooth powder container.

MR. HOWLETT: What is being done to add insect protection material to paper bags or cartons, containing food material, to kill or repel them?

DR. WARING: A great deal is being done but there is not yet an adequate treatment. The U. S. Dept. of Agriculture and several private research organizations are working on the problem. The work is being done primarily by entomologists rather than packaging people in the treatment of soil. For example, they have used salenium in soil; its use for food packaging is out of the question because it is poisonous. Other chemicals are being tested. There is no way of predicting which ones will be effective and which ones won't. All are hoping to find something which will not be toxic to people and can be incorporated in paper or adhesives. The Southern Regional Research Laboratory is particularly interested in the protection of cotton. Success would mean extention of the applicability of cotton bags for food packaging. The Cotton Protection Institute is also working on this. While I know of nothing commercially available now, we are all hoping that a solution will be found.

MR. HOWLETT: What is being done to develop an adequate liner and backing for screw cap closures used with liquids having an alcoholic content?

MR. TIBBETS: Materials are now fast becoming available—vinylite and Saran, for example, should serve the purpose very well.

MR. HOWLETT: Who should decide, and when, that it is necessary to change a package design?

MR. WEBSTER: There should be continuous study by at least one individual at each plant so that the company will keep up with trends or, better still, be one step ahead.

MR. HOWLETT: What is the largest size of container display carton acceptable to both drug and department store outlets?

MR. GIVNER: The trend is toward modernizing stores, and owners don't want to spoil the looks of their stores. In a year or two I imagine there will probably be a trend back to larger displays.

MR. HOWLETT: What are the requirements of the Federal Food, Drug and Cosmetics Act on labeling, etc.?

ANSWER *(Mr. Howlett):* I'd suggest that you secure a copy of the act, Public Law 717, from the Superintendent of Documents, Washington.

MR. HOWLETT: What progress has been made in the development of methods to prevent caking of powdered materials due to exposure to moist atmospheres in shipment and storage?

DR. WARING: There has been a great deal of study on this lately. Caking occurs primarily in crystalline products — chemicals and foods, for instance — due to temperature changes. The real problem, however, is moisture. The remedy is to dry products as carefully as possible in the original manufacturing operation and then to protect them from picking up further water. This can be done (1) by packaging in a container that will prevent entrance of water vapor, (2) by adding material to coat the crystalline particles individually and prevent the crystals from growing together and (3) by adding a small percentage of inert chemical to combine with water to do the drying which should have been done in the original production process. None of these means is effective if the packaging material is permeable to water vapor.

MR. HOWLETT: Is there a standard and practical manual lock-type flap (not tuck-in) for folding boxes holding ¼ doz. to 1 doz. units?

MR. W. F. DEVENEAU, *National Folding Box Co.:* Yes. I think almost every folding box maker has one. We have a patented one which closes with a click top. I think such boxes are readily available from a number of sources.

MR. HOWLETT: Has it ever been proved that related package design or families is or is not desirable for a line of merchandise?

MR. WEBSTER: While it is desirable, a family design can lead to confusion. It should be watched carefully when getting into a new line.

MR. HOWLETT: What is being done to provide coatings, other than nitrocellulose, that can be used in heat sealing packages wrapped in cellophane or glassine?

MR. HICKMAN, *The Dobeckmun Co.:* There are other coatings being experimented with — Saran, for example. They are not yet on the market, however.

MR. HOWLETT: What will the expansion in the number of items sold do to retail outlets? Will the loss of specialization increase costs?

MR. GIVNER: Taking on more lines, particularly related ones, decreases the cost of selling. When taking on more lines, it should be determined whether the same sales staff can handle the additions.

MR. HOWLETT: What is the relationship between color on the package and the type of store where it is sold, such as variety, hardware, dry goods store?

MR. WEBSTER: It's a matter of style. Test the type of customer to be served. Style should be appropriate for the place where the product is to be sold.

MR. HOWLETT: How could display case manufacturers be induced to adopt standard specifications to assist frozen food package manufacturers in standardizing their packages to make for more efficient merchandising?

MR. GIVNER: One method, of course, is government regulation.

Another is for frozen food manufacturers to get together and place big orders for standard equipment with fixture manufacturers — orders large enough so that they can set up production-line machinery for making the equipment.

MR. HOWLETT: What are the possibilities of reducing costs on acetate or plastic containers so they can be used for packing popular priced items such as boutonnieres, feathers, etc.?

MR. HICKMAN: The basic cost of acetate flake is responsible for the current high cost of such containers. Only when this cost can be reduced by increased production will the ultimate container cost be decreased.

MR. HOWLETT: Is there a demand for improved methods of protection in shipping of heavy machinery?

DR. WARING: Yes, in certain sections. Machine tools have led the way in turning to the export market, possibly because of the surplus supplies available after the war. In many industries certain practices become style—one user adopts it and others follow. Machine tools are going into better packaging for export. As leaders in business adopt better methods, smaller ones will follow.

MR. HOWLETT: Is there a definite trend toward simplification of label design?

MR. WEBSTER: Categorically, yes. One should anticipate style trends by watching sources of style influence.

MR. HOWLETT: Is there a greater sales potential for the family design or distinctive package?

MR. WEBSTER: I believe in family packaging, but care should be taken to avoid confusion.

MR. HOWLETT: Do you feel that cost should be of first consideration in the development of a package so as to eliminate a number of materials and styles that would be considered if this were not known?

MR. WEBSTER: It depends on whether the product is being designed to sell for a specific price or to be the best possible product with the price worked out later.

MR. HOWLETT: Why is it that in pre-packaging retailers are advocates but manufacturers don't seem to be doing very much about it?

MR. GIVNER: Manufacturers do not want to do anything that has not been done before if it involves increased cost. Their objection is that they have no facilities as well as the added cost.

WEDNESDAY MORNING

Chairman, J. H. MACLEOD, *vice president, Hinde & Dauch Paper Co., Sandusky, Ohio.*

Industry's Stake in the Freight Classification Revision— W. B. LINCOLN, JR., *Technical Manager, Inland Container Corp., Indianapolis, Ind.*

The pressure to change Rule 41 stems from the fact that loss and damage claims paid out by the railroads have sky-rocketed during the war years from $21,000,000 in 1940 to $79,000,000 in 1945. Briefly, the basic problem which confronts the railroad Classification Committees is the demand of the railroad executives that they take action to bring about a reduction in the loss and damage claim accounts. There is much disagreement as to the methods to be pursued and the real causes for the rapid increase in claims.

The reply of rail carriers in Official Territory to the protests filed with the Interstate Commerce Commission, included the following statement: *"Increase in claims is directly attributable to box failure and the public should immediately be protected by tariffs which will stop the production of inferior boxes."*

The carriers' arguments in favor of changing Rule 41 at this time are based upon the tremendous increase in the loss and damage account. However, the railroads have not proved that boxes complying with the current Rule have contributed excessively to this account.

Until the Rule in effect is adhered to 100% and boxes complying with it are used in a period of normal transportation, there will not be available any real and conclusive evaluation of such boxes in service.

Referring to the proposals which have been made by the railroads, the estimated cost, assuming the additional material required was available, reached fantastic figures. Typical of the estimates that were made are the following:

The brewing industry estimated that revising their containers to comply with Section 7 of the May 14, 1946 Docket, would have increased their costs $43,340,000 per year. Total 1945 claims on all Ale, Wine, Beer, Alcoholic Liquors and Mineral Water amounted to only $5,166,777.00. The box industry estimated that it would cost $30,000,000 a year to produce boxes complying with the compression requirements specified. In addition $12,000,000 per year was the estimated cost of testing, and $5,000,000 the cost of necessary testing equipment.

What is more serious, the proposed changes would result in further restricting the output of shipping containers and create a serious bottleneck in our production economy.

Instead of improving the current situation, the suggested changes would very likely lead to an increase in claims rather than a reduction. Any action which will increase the cost and aggravate the shortage of boxes can only bring about the increased use of substitute packing materials, the increased re-use of secondhand containers, and the scaling down of specifications generally wherever possible.

Numerous programs have been initiated, designed to increase our technical knowledge of container materials and containers. These programs are going forward under budgets totaling several hundred thousand dollars per year.

Rule 41 simply establishes a pattern or a level of values for guidance in container construction. The various levels established can be high, low or in between, without materially affecting what a large segment of industry actually does in normal times.

It is obvious that the specifications for boxes strong enough to assure safe delivery of every type of product that must be packed would require a gross waste of costly and scarce materials, since a large proportion of all commodities shipped require less than the maximum of protection.

Packing requirements of the common carriers should be predicated on performance specifications. The only proper concern of the carriers is whether or not the shipment is protected adequately.

Rule 41 by itself cannot possibly guarantee safe delivery of any and all products. Rule 41 never has and never will guarantee adequacy of all packing any more than the prohibition Laws achieved Temperance.

While it is agreed that inadequate packing has contributed to loss and damage claims, the shortcomings are often of a type not controlled by Rule 41. A need definitely exists for up-grading that portion of marginal packing which is of low quality by generally recognized standards. The Railroads are neglecting the main point which is the adequacy of the pack.

The problem of claims must be attacked with à rifle, not a shotgun, blanket revision of Rule 41 requirements will simply increase consumption of material, with no assurance that any of the containers needing revision will have been modified in such a way as to effect claims. Examination of the records of test shipments made in connection with the Shipping Container Institute program show that 74% of the damage reported is due to causes beyond the control of Rule 41 or the boxmaker.

Just as long as the carriers fail to gather proper claim data, apply penalties or reject shipments in line with the authority they already have, they are failing to give medication to fit the disease.

According to the railroads own statements, 95% of the claims are filed by the consignees. In most cases the shipper is blissfully ignorant of the damage claims filed. This leads to a false sense of security on the part of the shipper and eventually may give him the idea that he may be over-packing with the result that he may specify containers of lower strength values and lesser cost where the opposite action would be indicated if all of the facts

were known. This situation should be corrected by setting up claim procedures which would assure full information regarding all claims reaching the shipper in each and every instance. This is a job for the railroads to do instead of leaving it up to the consignee as they have heretofore. About half of the questions asked of Mr. Lincoln involved this one point: "Is less than 1% breakage too much to expect? Do you consider this over packing?"

His conclusion was that aiming at 1% was probably too much for continuous operation and that industry generally should try for less than 1%. However, he said, there could be no standard, that the measure of breakage depends on the commodity. In the case of explosives, breakage must be zero. For many other items, breakage may not be so serious. Some shippers like to keep breakage within limits of one tenth of a percent.

The Packaging of Metal Parts—L. A. HOLDER, *Packaging Committee Coordinator, The Timken Roller Bearing Co., Canton, Ohio.*

Several years ago our company which makes mass production parts began a study to take full advantage of modern packaging development, Mr. Holder stated. The technical objectives were: (1) Adequate protection of contents for metal parts made to close tolerances, extremely vulnerable to corrosion and rough handling, ranging up to 130 and 170 lbs. weight per cubic foot. (2) Convenient units for handling in plant, storage, and to and from railroad and truck loading docks. (3) Packages that would be neat in appearance and marked legibly. (4) Economic and practical units for all concerned.

The Timken operation covers a volume of 4½ million bearings a month ranging in size from 1¼ by ½ in. to 60 in O.D. by 36 in. long and weighing from 4 oz. to 5 tons. The greatest problem is the fight against corrosion from the start of the manufacturing procedure to the time the products reach the consumer.

By washing, drying and greasing, the problem of preparing the bearings for shipment has been solved, but from that point on they must be packaged to maintain that same clean, corrosion-resistant condition. Smaller parts, less than 6 in. O.D. were formerly packaged in a chipboard tube lined with parchment, ends secured by paper caps. It was found, however, that this packaging was inadequate. If the glue holding the caps gave way, the caps popped off and contents of the tubes would fall out. Now this package has been improved by the use of 30-gauge metal caps crimped to top and bottom of the tubes, heavy enough to support 2½ times the static load of the glued paper caps. These metal caps increase the cost about 50%, but the added protection given to the product and other savings involved justifies this cost, according to Mr. Holder.

Other small parts are packaged in 46 different sized cartons of which the company uses some 15,000,000 per year. The bearings are greased and therefore must be packaged to keep the grease on the parts. Use of an inner wrap of waxed paper to keep the grease from coming off the bearing has been common practice in this industry, but this involves considerable labor. To eliminate the waxed paper wrapping Timken has been experimenting with the use of a polyvinyl alcohol coating on the reverse side of the carton stock. This has proved quite satisfactory, but has been difficult to obtain. Instead, therefore, the company has been gluing vegetable parchment to the inside of the cartons.

The company trademark has been retained on all the carton packages, but they have been redesigned to provide better sales appeal. The cartons have also been designed with two sealed ends to permit the use of automatic gluing machinery.

Packaging of the larger bearings falls into two classifications—those which are packaged for long-period storage and those designed for a specific use and packaged for quick delivery not requiring long storage.

A tire wrapping machine has proved very efficient for wrapping larger bearings if the bore is larger than five inches. An inner crepe paper wrapping is applied by this machine. This seals in the grease, but does not absorb it. A crepe asphalt paper is applied over this, by the same machine, in the opposite direction. Eventually Timken would like to use colored or printed paper for this purpose to add to the attractiveness of the package.

Plastic dips have been investigated and have many advantages but so far this company has not adopted them. Due to the many sizes of bearings involved, high-speed package production methods have not been developed, but the company is very cognizant of their advantages.

For shipping bearings, three types of boxes are used: nailed wood, wirebound and 20 sizes of corrugated boxes. Because of the green lumber situation and the inferior grades of lumber during the past few years, it was necessary to find substitute containers and Timken has designed special corrugated boxes which are particularly effective for palletized handling and is continuing test shipments to provide a background of test data on this type of container.

The Determination of Container Sizes—W. RUTHERFORD JAMES, *Treasurer, Towns and James, Inc., Brooklyn.*

My paper must necessarily apply to the drug business to which my experience has been limited. Proper sizes for shipping containers are governed principally by two factors: the physical characteristics of the product itself and the sales level which it has attained in the average retail outlet which handles it.

You will be interested in the questions which were sent to the (drug) wholesalers in March 1946. Questionnaires were returned by 42% of active membership of the association. We found that a number of the wholesale houses did not attach any significance to movement in cases as opposed to broken cases. This is not really surprising when it is generally estimated that wholesale druggists sell approximately 10% of their volume in case lots as opposed to the 90% estimated for wholesale grocers. Among the smaller country wholesalers, particularly, no great interest was indicated in case business, very few instructed their buyers to question manufacturer's packing and only half furnished their salesmen with working lists showing contents of shelf packs and cases of various products. There was an overwhelming verdict that the largest part of the display material packed in cases opened in wholesale warehouses was wasted and very little to indicate that manufacturers' representatives were successful in making case lot sales. The last question, asking for specific recommendations, brought forth suggestions involving more than 300 products. Let me remind you that the question did not lead or suggest any type of product—yet, one well advertised brand was named by 40 out of the 84 replies and 15 other brands were mentioned 20 times or more. After these headliners came a group of 14 other items for which changed packing was recommended by 10 to 20 of those answering the questionnaire.

An over-all formula is not possible because the following factors all have some bearing on what packing will prove to be most advantageous. What is the nature of the product, small tube, jar, 14 ounce bottles? Does it enjoy a large sales and rapid turnover or not? Is it promoted by work with the physicians or advertised to the public so that display in the store is important? Is it the practice of the manufacturer to have seasonal deals, combination sales, or bonus offers? And most important, is there any connection between the packaging and the pricing policy of the manufacturer? The answers to some of these questions are automatic. If the sale is so small that the large retailers buy only in small quantities, then the primary consideration becomes protection of the individual package. If display in the store is needed, the matter of set-up shelf packages is more important. And if it is the desire of the manufacturer to offer bonus goods, which is rather common in the drug trade, then obviously the best way to pack is to select a case or shelf pack which will include the bonus merchandise such as a case of 12 for a manufacturer who wishes to offer one bonus with 11 purchased.

One of the things that we learned in connection with our larger wartime sales was that, as the druggist's volume improved,

he was ready and willing to buy in bigger quantities than we had ever suspected. This was due in part to merchandise shortages which made freer buyers out of everybody but it was the first time we, in our company, had experienced a large enough number of case lot sales to make us feel that the case business could be developed. To us, it seemed a real possibility that we could increase the capacity of our physical plant and of our present number of employees if we could shift some of our volume from broken quantities to case lot sales. It necessarily involved improvements in our handling methods so that we could gain the full value of case handling. So we have installed new conveyors, moved departments and improved our operation by the same methods that are being followed in most lines of business all over the country. Other wholesalers are doing likewise and within a month, three new drug warehouses will be operating, all based on the latest most up-to-date thinking in the industry.

Now, how is this related to today's situation and how can a manufacturer make use of this increased consciousness of handling costs? The last thing a manufacturer wants to do is to increase the price paid by the consumer for his brand. Even if a price is carried over from the early Fair Trade days and not providing enough profit for distributors, the manufacturer moves slowly about putting it up. If he can, he will want wholesalers to continue to pass along some of the wholesale discount to bolster his inadequate margin for the retailer. With improved intelligent packing, either shipping case or shelf package depending on which is applicable, he at least has a chance of convincing his wholesalers that he can properly expect them to share some of the wholesale discount with the retailer if they have been so doing. If that is the case, he can rewrite his manufacturer-wholesaler contract so that the granting of the intermediate discount is based, not on dollars but rather on the handling of a unit, case or shelf package, where there is a real saving in handling cost. This problem is simplified if the trademark owner feels that a higher consumer price can be obtained without pricing the item out of the market. Then, working back from the consumer level, he can set minimums at the wholesale level which will provide the retailer with the best margin of profit if he buys the product in the quantity which can be most efficiently and economically handled by the wholesaler.

My conclusion, obviously, is that the determination of shipping case sizes and inner packings must be the responsibility of the sales department as well as the purchasing and production divisions of a manufacturing company. It is not possible to establish a formula which will have any breadth of application, even within a single company manufacturing any sort of diversified line. Furthermore a rapid growth in sales of a product can change what was an ideal shipping case size to one which is now too small to be efficient throughout the chain of distribution. It is less important for a company to have uniformity in the shipping case sizes of its various products, than to fit the packing of each individual article to its physical characteristics, its average unit of purchase by the greatest number of retailers, and to the promotional efforts planned for it.

WEDNESDAY AFTERNOON

Shipping Container Clinic—*a panel session*

Chairman: E. A. THROCKMORTON, *President, Container Laboratories, Inc., Chicago. Panel members:* J. D. MALCOLMSON, *director of products development, Robert Gair Co.;* NEIL A. FOWLER, *director of sales research, General Box Co.;* LAWRENCE T. ROSS, *manager of sales development, Union Bag & Paper Corp.;* F. B. DEVILBISS, *insurance department, Pennsylvania Railroad;* W. R. HUMMEL, *merchandise methods and results, Western Electric Co., Inc.;* W. B. LINCOLN, JR., *technical manager, Inland Container Corp., assisted Mr. Throckmorton in processing and organization of the written questions.*

MR. THROCKMORTON: In shipping such items as refrigerators, kitchen cabinets, etc., which have a rather easily damaged surface, is it advisable to utilize the so-called "psychological pack" and eliminate the paper covering, so that the handlers can see the product within the crate as a guide to proper care during shipment and handling?

MR. HUMMEL: There may be some value in the idea, but it has certain practical disadvantages. For example, the products may be damaged through contact with the crate itself, regardless of care exercised in handling. In general, the psychological pack does not appear advisable for this type of application.

MR. THROCKMORTON: What are the prospects for improvement in fibre cartons, particularly as regards such characteristics as strength and water resistance?

MR. MALCOLMSON: The V-box used during the war, although too expensive for most peace time applications, demonstrated what could be accomplished in this direction. A modified type of V-board is now being developed which should offer some of the same advantages and will also be low enough in price to justify commercial use.

MR. THROCKMORTON: Should cleated fibreboard crates be stapled, nailed or both?

MR. FOWLER: Depending on individual conditions, either method will usually give satisfactory results.

MR. THROCKMORTON: What can industry do to cooperate with the railroads and other carriers in the reduction of damage claims?

MR. DEVILBISS: Basically, the most important thing is to make certain that the product is adequately protected by interior packing which takes up the slack in the container. This is primarily a matter of developing an engineering approach, and is not expensive.

MR. THROCKMORTON: Is there a standard design or size of plywood or fibreboard shipping container for home refrigerators?

MR. HUMMEL: Because of variations in the sizes of refrigerators made by each manufacturer, there is no standard sized container for this product. There are, however, several basic styles of container in common use on this item.

MR. THROCKMORTON: Is it possible to refine container testing techniques to relate them more closely to actual conditions encountered in handling and shipment?

ANSWER *(Mr. Throckmorton):* Here it must be remembered that packaging is not, and cannot be, an exact science. In actual shipping, we are rarely dealing with "average" conditions, but actually with a number of variables which, taken together, comprise an average. In attempting to achieve a workable balance between product protection and reasonable package cost, a "calculated risk" is inevitable. Until a happy medium has been reached through actual shipping experience, we are bound to have some merchandise overpacked and other items underpacked.

MR. THROCKMORTON: Would there be any advantage in having the manufacturer's joint of a shipping carton on the outside rather than the inside of the container?

MR. MALCOLMSON: If this overlap is on the outside, it may get hooked open in handling, resulting in severe damage to the container and possible loss of contents. Except in unusual cases where the inside joint is likely to cause damage to contents, the customary inside joint appears preferable.

MR. THROCKMORTON: In view of the present shortage, is increased re-use of shipping containers advisable?

MR. MALCOLMSON: From a practical standpoint, a certain amount of re-use is necessary, but considering the many disadvantages involved, continued re-use of shipping containers should be abandoned as soon as possible.

MR. THROCKMORTON: What volume of shipped tare weight would have to be involved to justify the expense of kiln drying shipping containers?

MR. FOWLER: No direct answer to this question is possible without detailed information on kiln operating costs, freight rates, moisture content of the cases, etc. While it is true that the moisture content of some cases is rather high at the present

time, the savings to be realized through kiln drying appear questionable in most instances.

MR. THROCKMORTON: What special precautions should the new user of paper bags observe?

MR. ROSS: Many of these precautions relate to such matters as handling, piling, storing, carloading, etc. Handlers should not attempt to form ears on the bags by which to pick them up. In piling, the bags should be arranged so they will not fall; nor should they be dragged over rough floor surfaces. The nose of the hand truck on which the bags are transported should be sufficiently wide to eliminate excessive overhang; wheels should be guarded to prevent them from rubbing against the bags. A detailed bulletin covering these and similar suggestions on proper use is available on request from paper bag manufacturers.

MR. THROCKMORTON: Why are corrugated carton manufacturers allowed to make and sell cartons which are far below the standards stamped upon them?

MR. MALCOLMSON: They are *not* permitted to do so, although there are some such cartons in current use. Current shortages are not an excuse for sub-standard boxes. The customer should refuse to accept containers which do not, under actual test, meet the standards claimed for them.

MR. THROCKMORTON: Is anything being done about handles for paper bags, to facilitate handling heavy loads packed in this type of container?

MR. ROSS: Development work is currently under way on this problem and bags will probably be available in the near future, in both 50- and 100-lb. sizes, with suitable handles.

MR. THROCKMORTON: What information is available on the average mishandling and rough treatment encountered during shipment in the form of drops, shocks, etc.?

MR. DEVILBISS: The railroads make use of impact recorders which give a fair idea of the amount of rough treatment encountered in switching, etc. These recorders are shifted around to different locations and afford a fairly complete picture of this type of impact shock. As far as manual handling during loading, unloading, etc., is concerned, only a visual impression is possible; through constant supervision and education, it is hoped to get the men back to pre-war handling standards. The emphasis on speed during the war, when packaging was engineered to withstand unusually severe treatment, resulted in the formation of handling practices which must now be modified to meet peacetime requirements.

MR. THROCKMORTON: Are any manufacturers now making boxes which measure up to test standards?

ANSWER *(Mr. Throckmorton):* As a matter of fact, most of them are. The few sub-standard containers encountered receive a disproportionate amount of publicity and create the impression that this condition is much more common than the facts indicate.

MR. THROCKMORTON: Are any new plastic materials being laminated to the inner walls of paper bags to eliminate contamination of product?

MR. ROSS: Some work has been done in this direction, but in most instances the final cost of the bag is too high. Usually, it is possible to process the bag during manufacture so that satisfactory product protection is obtained without resorting to special laminations. The cost factor is very important in packages of this kind.

MR. THROCKMORTON: Can fibre drums be used successfully for moisture-sensitive products?

MR. H. CRAEMER, *Fibre Drum Mfrs. Assn.*: There are numerous types of materials, such as microcrystalline wax, foils, etc., with which the drums may be lined to permit their use with such products.

MR. THROCKMORTON: Is anyone at the present time gluing paper bags together on a pallet and shipping them as a unit load?

MR. DEVILBISS and MR. ROSS: We know of no actual products now being shipped in this manner, but there is much interest in this method by bag manufacturers as well as users and considerable experimental work is in progress, especially on egg crates, etc.

MR. THROCKMORTON: Is there any real value in advertising applied to outer shipping containers?

MR. HUMMEL: Yes, definite value of such advertising has been demonstrated by experience.

MR. THROCKMORTON: What about the value of standardizing the humidity at which containers are tested by testing laboratories?

ANSWER *(Mr. Throckmorton):* In general, a relative humidity of 65% has been used by many testing laboratories because it approximates average outdoor conditions. However, different standards are common in the paper industry and among container manufacturers. There is a growing interest in greater standardization and eventually general agreement on a representative figure may be realized. Users of historical data naturally are not too desirous of making a change which will modify their records. Meanwhile, the important thing to watch is that tests are made at definite, recorded humidities, in order that results may be properly evaluated.

MR. THROCKMORTON: We have a quantity of boxes made from green lumber on which the steel strapping has loosened due to drying out of the lumber in storage. Will the boxes swell sufficiently during shipment to tighten the straps up again?

MR. FOWLER: Probably not; restrapping is indicated. In the future, it would be better to leave the boxes unstrapped until just prior to shipment to avoid this condition with green lumber.

MR. THROCKMORTON: Is there any other stuffing medium that is as economical as excelsior for inner packing?

MR. HUMMEL: Probably none more economical, but others may be preferable from other standpoints, such as that of housekeeping. In general, Westinghouse attempts to design its containers to eliminate stuffing of any kind. In transit, packages making use of this type of protection may undergo mechanical damage.

MR. THROCKMORTON: Do various forms of transportation refuse to accept improperly packed merchandise?

MR. DEVILBISS: Under Rule 5, improperly packed merchandise can be refused. Ordinarily, when such improper packing is called to the attention of the shipper, he is glad to make the necessary changes. One major problem encountered by the railroads is lack of destination information on the packages; this point should be watched more closely by shippers.

MR. THROCKMORTON: We understand that the railroads are paying heavy claims because of damage to egg crates. Are there any new packaging developments which may be expected to overcome this problem?

MR. DEVILBISS and MR. LINCOLN: It is true that the "egg bill" has become quite excessive. There are some fibreboard cases now being made in limited volume which do a very successful job, however. Many of the wooden cases are damaged because they are not properly nailed. The fragility of the product naturally opens the way to considerable damage; another important factor is that hens, through selective breeding, are now laying larger eggs which do not fit former crate standards well. The size of the egg compartments should be increased. A rubber pad is said to be under investigation as one answer to the breakage problem.

MR. THROCKMORTON: Why are the railroads reluctant to enforce Rules 5 and 41 in order to reduce losses?

MR. DEVILBISS: The Pennsylvania Railroad has instructed its shipping inspectors to enforce observance of Rule 5. I personally feel that Rule 41 in its present form is quite difficult to administer and that better tests and standards are desirable.

MR. THROCKMORTON: What methods of closing paper bags are available to prevent sifting of contents, other than sealing?

MR. ROSS: Sewing is quite satisfactory. A triple fold, followed by stapling, has been found quite successful for insecticides packed in paper bags.

MR. THROCKMORTON: What are the most popular sizes and weight limits on fibre drums?

MR. CRAEMER: The drums are available in a wide range of sizes to meet different requirements. Drums rang from 3/4 gal. to 75 gal. in capacity and from 1/10 cu. ft. to 10 cu. ft. in cubical content. Weights which may be packed in these drums run as high as 400 lbs. net.

MR. THROCKMORTON: Are there any reliable shipping or drop tests for packaged radios and electronic equipment, which can be conducted at the plant of the manufacturer?

MR. HUMMEL: This is a good idea, but no generally recognized standards for products of this nature are in existence. Because of variations in the products, packing methods, etc., it is largely a problem to be solved by the individual manufacturer. As a suggestion, a 3-ft. drop might be tried for 40-lb packages, 2 ft. for packages between 40 and 100 lbs. and 12 to 18 in. for packages over 100 lbs. Westinghouse has developed a small impact recorder, to be placed in packages, which will provide answers to some of these questions. It will, when perfected, record both the number of drops and the height of each.

MR. THROCKMORTON: What speed is regarded as maximum in the shunting of loaded railroad cars?

MR. DEVILBISS: A speed of 6 mph may be used without damage if merchandise is properly loaded; we try to work at a maximum of around 4 mph. We have seen heavy machinery, properly loaded, shunted at 8 to 10 mph without damage.

MR. THROCKMORTON: How important is the method of closure of a fibreboard shipping container in the prevention of damage?

MR. MALCOLMSON: This is an extremely important factor. Even with a satisfactory container, improper closure may result in product damage, whereas a sub-standard container, properly closed, may get through without damage.

MR. THROCKMORTON: About how much reduction in nail holding power may be expected through the drying out of wooden boxes?

MR. FOWLER: This figure may run as high as 50% in typical cases.

MR. THROCKMORTON: How do the railroads go about enforcing packaging requirements and how are violations dealt with?

MR. DEVILBISS: Inspectors visit the various stations and cooperate with receiving clerks to determine how shipments are coming through. Usually severe cases of sub-standard packaging are readily observed. Shippers are not "punished" for violations, but instances of improper packaging are called to their attention and they are usually glad to make the necessary changes to insure proper delivery of their products.

MR. THROCKMORTON: How may wooden containers be treated to prevent the development of molds and stains?

MR. FOWLER: Standard types of dips are now being successfully used for this purpose.

MR. THROCKMORTON: How can the rough handling of light weight containers in l. c. l. shipments be minimized?

MR. DEVILBISS: This is primarily an educational problem on which the railroads are devoting much effort at the present time. Some railroads also employ bulkheads in the cars to reduce this type of damage.

MR. THROCKMORTON: How can the shipper make certain that a flat case is kept flat during shipment? Sometimes they are placed on edge to facilitate loading.

MR. DEVILBISS: This is largely a matter of proper labeling and close supervision of loading operations. If necessary to place such containers on edge, the railroads can strap them to obtain the necessary protection.

MR. THROCKMORTON: What is being done to eliminate the odor of printing ink used on shipping cartons for products such as facial tissues, which have a tendency to pick up and retain the odor?

MR. MALCOLMSON: This problem is under current investigation by ink manufacturers as well as carton producers; good results in eliminating this difficulty may be expected soon. Certain biscuit and cracker manufacturers are already said to have successfully eliminated this problem.

MR. THROCKMORTON: What special restrictions have been placed on the use of shipping bags by the railroad freight committee?

MR. ROSS: The bags are required to meet special conditions involved for each type of product. In the absence of specific requirements, the provisions of Rule 40 are applied.

MR. THROCKMORTON: What is the approximate moisture content in current stocks of sawed lumber shooks?

MR. FOWLER: This figure may run approximately 23 to 24% in current production, whereas it should not exceed 18%. This situation is undergoing gradual improvement, however.

MR. THROCKMORTON: Is it customary for the railroads to repair damaged boxes and forward them to the consignee?

MR. DEVILBISS: Most of the railroads employ coopers and render this service when possible.

MR. THROCKMORTON: What can be done to increase the stacking height of fibre boxes?

ANSWER *(Mr. Throckmorton)*: It is unlikely that fibre boxes can be made to equal wooden boxes in this respect because the fibreboard is subject to gradual "fatigue" under the continued stacking pressure.

MR. THROCKMORTON: What is the procedure in having a new container design tested which is not covered by Rule 41?

MR. DEVILBISS: A sample of the container may be submitted to the classification committee, which may issue a permit for test shipments, or the container may be turned over to a testing laboratory for an evaluation of its shipping characteristics.

MR. THROCKMORTON: Are any new corrugated boards being developed which will have increased rigidity?

MR. MALCOLMSON: Good results along this line may be expected from current work on chemical treatment of the 9-pt. sheet which will provide corrugated boxes of greater strength without seriously impairing their flexibility.

MR. THROCKMORTON: Under the proposed revisions to Rule 41, will strip or spot gluing of outer carton flaps be permitted?

MR. DEVILBISS: The trend is toward greater liberality of interpretation on this point. Railroads realize that spot gluing is already being used by many shippers. If examination of sample shipments indicate satisfactory sealing can be accomplished with this method, chances are that shippers who check this point with the committee will be permitted to use it.

MR. THROCKMORTON: Why don't fibre container manufacturers provide a larger lap at the carton seam? Would double stitching be worth while to obtain greater strength in this seam?

MR. MALCOLMSON: Drum tests verify that the present type of seam, when properly made, provides adequate strength for shipment. A stitched glued lap, properly made with a single row of stitches, is just as satisfactory as if made with double stitching.

MR. THROCKMORTON: Should corrugated board lose much strength after a year's storage?

MR. MALCOLMSON and MR. THROCKMORTON: Unless stored under excessively warm conditions, or exposed to extremely high humidity, the material should suffer no ill effects. Unless the storage conditions cause the paper to dry out excessively or to rot, it should actually gain strength on continued storage.

MR. THROCKMORTON: Is the unit packaging of commodities for the industrial consumer desirable?

MR. HUMMEL: This depends on whether the product is to be used on the production line or whether it is to be redistributed. If the latter is the case, unit packaging at the source of manufacture is likely to prove most expeditious.

MR. THROCKMORTON: How should container specifications be written to insure getting the proper size of container from different suppliers? Many of the manufacturers use a different basis of measurement, which may get the buyer into difficulties.

MR. MALCOLMSON: Perhaps the safest system is to give the manufacturer the inside dimensions of the empty box. After all, it is this interior space that the user is purchasing. A wooden block having the actual dimensions of the box interior may be used to obtain these measurements.

MR. THROCKMORTON: When glass containers break in ship-

ment, how is it determined whether faulty packaging, rough handling or sub-standard glass containers were at fault?

MR. DEVILBISS: The inner packing is first inspected to see whether it was adequate, and the outer container is examined for evidences of rough handling. Wall thickness of the bottle at the point of breakage will immediately disclose whether the bottle itself was defective. Interior pressure sometimes produces breakage in beer bottles.

Eliminating Damage Claims Through Proper Carloading —A. P. KIVLIN, *Assistant Superintendent, Freight Claim Prevention, The New York, New Haven & Hartford Railroad Co., Boston, Mass.*

A freight car can, for all intents and purposes, be considered a super-shipping container mounted on wheels. This super-container is furnished by the railroads to the shippers for their use.

Most all damage in carload shipments, Mr. Kivlin, pointed out, is the result of the lading shifting in the car. Shifting is permitted by allowing unoccupied space to exist in the car into which the lading can shift. This may result from one of two causes:

1. Poorly designed or improperly applied blocking or bracing, or blocking and bracing made of insufficient or defective material.
2. Blocking or bracing failures, in certain instances, that are due to exceptional handling to which the car might be subjected in transit.

The most damaging shocks to which the lading in the car will be subjected while in transit will be lengthwise of the car. These damaging shocks may be the result of careless or improper handling of cars. Damaging impacts may be minimized by the use of effective draw bars which are provided with efficient springs.

The lading is also subjected to shocks of a lesser degree as result of vertical vibration, that results in a void being created into which the lading can shift with resulting damage. Every effort should be made in loading and staying freight to counteract this movement of lading which results from vertical vibration. The railroads are vitally interested in the study of vertical vibration and are developing new types of Bolster springs and snubbers which will eliminate the cause of vertical vibration so as to reduce to a minimum the amount of damage resulting from the same.

The third type of damage which is experienced in the normal movement of a freight car is that which is caused by the side sway of the car.

To correct this situation it is proposed that fibreboard container manufacturers and the carriers, through their joint efforts, develop by test shipments and impact tests, facts upon which they might base the number of compartments into which the car should be divided by bulkheads crosswise of the car so that the number of containers in each of these compartments might be restricted so that the mass in each compartment would not be sufficient to compress the stacks in the compartment in which they are loaded to such an extent as to permit a void that would allow a shift of such a degree that would result in damage. It is further thought if such a study was developed that few compartments would be required to obtain the desired results.

At the present time it is a general practice and it has been recommended from authoritative sources that fibreboard containers should be loaded lenghtwise of the car. This practice is thought to be conducive to damage. When the containers are loaded lengthwise in the car the inner flaps serve no useful purpose for reinforcing the compression of the containers whereas if the containers were loaded crosswise in the car these inner flaps would immediately come into compression and resist the compression forces which would tend to buckle or crush the containers.

In loading and bracing miscellaneous types of freight the only effective way of properly loading this freight to prevent damage is, whenever possible, to segregate the different types of articles comprising the freight and loading and bracing each of these articles in the same manner as if an entire carload shipment was being loaded and braced, then brace this portion of the load by a bulkhead and proceed in a similar manner to load other groups of merchandise so that there will be no possibility of preventing an orderly load.

The subject of loading and staying of freight could not be considered complete unless some mention is made relative to the "Flexible Method" of loading in which the lading is prepared as a full floating unit or a semi-floating unit where the shifting of the unit is restricted by some type of a retarder.

However, in the floating or "Flexible Method" of loading freight in cars the same principle applies as in the rigid brace method, that is to say, each floating unit, comprised of several smaller units, should be assembled in the main unit in an orderly manner and then the whole load should be securely bound together as one unit.

It would not seem appropriate to be critical of the present loading and staying of freight unless some suggestion might be made for consideration which would have a tendency to improve the present situation.

With this thought in view, it is suggested that some thought be given, in constructing cars for shipping freight, to providing such cars with auxiliary ends placed in the ends of each car; these auxiliary ends to be provided with springs of certain tensile strength that would provide proper cushioning so as to protect loads which might be placed in the car in contact with the same. If cars were constructed in this manner, it is thought if and when a car was subjected to an impact the load attached to each auxiliary end would be permitted to move in the direction of the impact, yet the shock resulting from such impact would be absorbed by the specially designed springs which were used in attaching the auxiliary end to the end of the car.

THURSDAY MORNING

Chairman, MASON ROGERS, *Head, Packaging Division, Dewey & Almy Chemical Co., Cambridge, Mass., and President, Packaging Institute.*

Developments in Pre-Packaged Perishable Foods—A. L. MARTIN, *Director of Research, Western Growers Assn., Los Angeles.*

For years, a change has been taking place in the average American's eating habits, a change so significant that it is no exaggeration to term it a revolution, which has involved the farm, the processing plant, the food store and the home. Today, American homemakers want to feed their families as wholesomely and as economically as possible; but they also want and intend to have the time and energy to create a fuller life.

Mrs. America has no wish to do away with the home-prepared meal. But she does not intend to wear herself out in the kitchen. Today, woman's fight for freedom from kitchen drudgery has about been won. The revolution has been so gradual that a huge part of our country's food producers — I refer in particular to the growers of fruits and vegetables — have been quite unaware of it. But the victory will continue to affect the producing, distributing, transporting, and processing of all kinds of food products. It is one reason why consumer packaging of fresh fruits and vegetables is being so closely studied by progressive retailers, some wholesalers and a few — but, as yet, only a very few — important growers.

If the present wasteful, unsanitary, hard-to-buy method of retailing fresh produce is continued; if the growers, shippers and wholesalers of fresh produce ignore this retail bottle-neck; if they continue to do little or nothing to prepare their products for self-service purchase; and if fresh produce is not kitchen-serviced for housewives so that they no longer are obliged to spend the hours in their kitchens preparing these products which they could

better employ, you and I are going to eat less and less fresh vegetables as each year passes. We will eat more frozen, canned, processed vegetables. And yet, nearly everyone prefers fresh fruits and vegetables.

Two years ago the vegetable growing industry of California and Arizona decided to do something about the inevitable post-war competition from processors of vegetables with which their fresh products would have to contend. They engaged me to make a thorough study of the situation and to implement a comprehensive, long-range plan of research. My studies convinced me that consumer packaging at the point where the products originate was the principal answer to the problem.

We have our own laboratories and workshops, a staff of scientists, engineers and technicians, and with the wholehearted cooperation of leading manufacturers of packaging film, several manufacturing chemists, machinery fabricators and others we have learned some very startling and also some very disturbing facts. We have conducted over two thousand experiments on lettuce alone and we are just beginning to see daylight.

With the exception of fresh meat, shipping point consumer packaging of vegetables is the last great food packaging job that remains to be done. It is however, proving to be one of the most difficult.

The chain store operators and wholesalers are real pioneers, and they deserve the utmost approbation from the entire produce industry, but I am obliged to tell you that the net result of their experiments is that vegetables and fruits, when packaged, will outsell the same commodities offered the consumer non-packaged — providing the packaged product costs little or no more than the unpackaged product. Aside from this, their experiments have not conclusively proved much else — except that the cost of packaging at the wholesale and retail levels is too high ever to make it successful.

It is much too wasteful. For example: The A & P, in their Columbus, Ohio, warehouse, have been experimenting with a mechanical process of pre-packaging produce for nearly four years. After paying the grower for the products, the packing costs, the freight, and the top icing (that is some seven or eight tons of crushed ice blown on top of the load and re-iced several times in transit), this is what they throw into the garbage bins *before* they begin to package the tonnage they bought and had shipped to them: 26.9% of the total weight of carrots received, 63.6% of the cauliflower, 29.3% of the celery and 38.5% of the lettuce. They can package an average of only 60% of the weight of each carload of these vegetables they receive.

To illustrate: carrot tops look nice, but they serve no useful purpose. As a matter of fact, after harvesting, the carrot tops live on the nourishment they derive from the carrot (the root) itself. Yet they weigh 26% of the carload. Remove them and you have a better carrot and you save 26% of the freight. Cauliflower jackets are promptly removed in food stores and the consumer buys only the curd. Yet cauliflower jackets weigh 63% of the carload. We transport these jackets thousands of miles and pay the freight only to throw them away before the consumer enters the store. Silly, isn't it?

There can be no doubt, in face of all the factors that can possibly make fresh produce packaging commercially feasible, that produce consumer packaging must be done at the source; that is, where the products are grown. But fresh produce consumer packaging by the grower presents many complex problems. No film, or packaging material, of itself will prevent decay or retard dehydration for the period of time necessary for the products to remain fresh. *Fresh* vegetables cannot be blanched. Neither can they be frozen. They must be transported at about 38 degrees F., and this temperature must be maintained for the entire transportation period, which from California is from 12 to 15 days to the Atlantic seaboard. Then the product must be kept in perfect condition in the store until it is sold — and not all retail stores are equipped with refrigerated cases for this type of produce.

We must treat the products to prevent decay, and we can't use chemicals which are in any way toxic or which destroy flavor. The products must be sterilized. They must be pre-cooled and washed. They must be dried. After all this is done, they are then ready to be packaged. And the cost of the entire operation, including the cost of the packaging material, must not exceed two cents per pound.

But since produce consumer packaging in my opinion, is not, and can never be, an economical operation at distribution levels, produce consumer packaging at the source is the only hope growers have of meeting the ever increasing competition of processed foods in the store and in the home.

From the beginning of our research work, we recognized that the methods and machinery employed at retail and wholesale levels to package produce would not be practical for any of our growers, because of the enormous tonnage any one of our growers ships daily. If all the carrots shipped by members of the Western Growers Association last year had been consumer packaged, one bunch to a package, the number of packages would total about 500 million, or if each head of lettuce they shipped had been individually wrapped, they would have shipped about one and one-half billion packaged units.

To enable the average California and Arizona grower-shipper to ship as many carloads per day of consumer packaged products as he does at present with bulk packing, the method or system which we had to devise must be one which will permit him to trim, clean, dry, treat for decay prevention, precool and package not less than eight tons of any one commodity an hour at a very low cost per consumer unit. Yet the fastest any packaging machine now available can package lettuce, for example, is somewhere between 30 and 40 heads per minute. The average number of heads in a car lot of lettuce is somewhat around 19,000. Therefore, with the machines now available it would take a shipper an entire day to package one car lot of lettuce, unless he bought and operated a battery of from five to ten such machines, which would be too large a capital investment.

In every one of our lettuce growing districts in California and Arizona the smallest capacity of any shed is 5 car lots per day. Most of them average better than 10 carloads per day. So you can see that from the shipper's standpoint he cannot possibly pre-package even a minor part of his tonnage until a packaging machine has been devised which will permit him to package not less than 200 heads a minute.

Our research staff of scientists and engineers have, we believe, solved this problem. We have invented and built experimental machines that are now being thoroughly tested in our laboratories and workshops. These tests, to date, give every promise that the requirements set for them can be attained. Early this summer we hope to have pilot machines completed, so that we can make transcontinental experimental shipments in carload, truck-load, and plane-load lots.

Pre-packaging by the retailer or the wholesaler, if high costs and waste are disregarded, is relatively a simple process, because the produce he packages today will be placed on sale that day or the next. But pre-packaging by the shipper must include an infallible process of decay control and continuous refrigeration at proper temperatures, because the produce must be transported for thousands of miles, under varying conditions, and it must be capable of being warehoused by wholesalers and retailers when necessary without losing *any* of its weight, taste or freshness.

I can tell you that through months of painstaking research we have found the means to prolong the life span of lettuce, celery, broccoli, carrots, cauliflower, tomatoes and brussels sprouts to not less than 45 days. We can clean, treat these products for decay control, package each head or stalk or bunch and hold them without loss of weight, crispness or without any discoloration, oxidation, mold or slime at temperatures between 33 and 40 degrees F. for 45 days, with no deterioration in taste or loss of sugar content.

We believe produce consumer packaging must lower costs. It

must eliminate much of the present waste and spoilage which result from present method of packing, shipping and distribution. It must help sell the product and lower retailers' sales costs. If it accomplishes these objectives, if only in a small measure, it will bring the price of these vegetables within the economic range of the twenty-five million families of this country who have less than twenty-five dollars per week to spend for food of all kinds.

While, eventually, practically all fruits and vegetables will be consumer packaged at shipping point, for several years to come shipping-point pre-packaging of fresh produce will, in my opinion, be confined to major selling items. With few exceptions, the fruit and vegetable commodities that can best be packaged at shipping point within the very near future represent about 75 cents out of every dollar the consumer spends in retail stores for fresh fruit and vegetables. They are: potatoes, 18.6% of produce dollar volume; oranges, 18.3%; tomatoes, 6.3%; bananas, 5.7%; lettuce, 4.9%; apples, 4.5%; onions, 4.0%; beans, 3.6%; carrots, 3.4%; grapefruit, 3.4%—total, 72.7%.

These products are on sale in food stores all year round in all parts of the country. They are grown and shipped by large independent or cooperative groups in comparatively few growing districts in several states. With the exception of bananas, shipping point pre-packaging of those fruits is entirely practical. In addition to the products I have named, so are celery, cauliflower and broccoli.

We are determined, through our research work, to learn the best way to ship the vegetables we produce so that they can be sold by self-service, with no waste, consumer packaged and at a price low enough to increase consumption. We are determined to accede to Mrs. America's demand for less work and better, more economical food.

QUESTION: How do you expect to control respiratory breakdown?

ANSWER: By fungicidal and germicidal treatment and use of the right kind of packaging materials. We are experimenting with a very low WVT and very low gas transmission film, and placing in the package the right concentration of nitrogen and CO_2, which seems to have a very beneficial effect.

QUESTION: What kind of containers will you use? What characteristics are required?

ANSWER: Our aims are: first, to do away with the bulge pack; second, to use a container that is physically very strong; third, to ship only in fan-equipped refrigerator cars that will circulate cold, humid air. There are 25,000 such cars available.

QUESTION: What about vitamin retention?

ANSWER: With our packaging and processing we do get good vitamin retention, and we have found out also, rather surprisingly, that the taste of most items is actually improved.

The Outlook for Improved Packaging Machinery—MOORHEAD PATTERSON, *Chairman of the Board, American Machine & Foundry Co., New York.*

The law of diminishing returns is catching up with the packaging machinery industry, and it is unlikely that new types of equipment will be developed unless suppliers of materials and packagers get together and help machinery manufacture with development costs, according to Mr. Patterson.

In the early days of the packaging machinery industry, Mr. Patterson pointed out, savings were spectacular because machines were competing with hand labor; now new machines are competing merely with older ones; yet purchasers still expect to get their money back in one, two, or three years. A machine can be developed and sold at a price which will make this possible, he said, only if it is assured of a large market. But the "practically unlimited imagination" of package designers tends to create a demand for highly specialized types of equipment and the manufacturer has no assurance that he will be able to sell any except to the original customer. If he spends enormous sums on development work under those conditions, "he is likely to wake up some morning and find he isn't there."

As an example of the difficulty the industry finds in meeting packagers' demands, Mr. Patterson cited the "perfect pretzel package." Composed of two sheets of transparent film, this wrapping solves the pretzel-maker's age-old problem of broken pretzels; it can even be rolled on the floor without damage to the product inside. But packaging machinery manufacturers would find the cost of developing equipment to make it prohibitively high, because they have no way of knowing how widely it will be accepted.

In spite of the fact that solution of the problem is really up to users of machinery and suppliers of packaging materials, Mr. Patterson believes that equipment people themselves should become more progressive than they have been in the past. Specifically, he suggested that they employ liaison engineers to work with customers and suggest possibilities. Moreover, he said, they should be willing to devote more time to the specialty problems of their customers—20 per cent of their engineering potential should not be too much to expect.

Evaluation of Visual Stimuli—N. F. GIRARDOT, *Supervisor, Visual Laboratories, Joseph E. Seagram & Sons, Inc., Louisville.*

The Visual Laboratory is one of the most recently developed research laboratories of the Seagram organization and is a logical extension of the program initiated in taste and odor research. The typical visual study is one involving the evaluation of a newly created package or the evaluation of a redesigned one.

We all realize the importance of knowing the physical and chemical specifications of our products: the impact strength of cartons, the bursting strength of paper, the alkalinity of bottles, the tensile strength of steel. We know something of the sensitivity, reliability, and validity of the measurements of such properties. However, our operational descriptions of the human reaction properties of packages and related materials were extremely unsatisfactory.

We were unable to answer such questions as the following: How attractive is the container from the consumer standpoint? How legible is the label? What is the attention value? To what extent is the package *remembered* after varying time intervals? To what extent is the package *recognized* after varying time intervals?

Since the package is the buyer's introduction to a product it must necessarily carry a high degree of attractiveness. The most attractive member of a group may be determined by any one of a number of the methods of experimental aesthetics, i.e., rank order, paired comparisons, or method of absolute judgment.

The samples, each identified by an initial, are displayed in a well lighted display case so that each sample is equally illuminated. After viewing the packages in the display case, each observer indicates a choice on a form; or in the event there are more than two packages, he would rank them in the order of his choice. In addition to actually ranking each package, the observers also write down any comments that they might have. These auxiliary data have proved to be extremely revealing in many instances.

For example, not long ago we completed a study of a food product packaged in transparent glass. A change had been made in the bottle shape and label design. The problem was to determine whether or not the proposed package was an improvement. The results disclosed that although the proposed package was aesthetically superior, the observers were almost unanimous in their comments that the appearance of the food in both packages was unappetizing. Thus the real problem was not package appearance, but rather product appearance.

Again, in a recent study of four beverage packages it was found that although one of the packages was aesthetically superior to the others, its relatively high standing was due in most part to the low ranking of the competitive packages. Although the beverage was primarily a hot weather seller, the majority of the observers indicated that the color combination was associated

with warmth. Obviously, a warm connotation is not desirable for a cool drink.

It is the purpose of the analytical studies to measure such properties as legibility, recognition, attention, and memory value. A visual exposure device has been developed for conducting objective studies of this type. This instrument combines the principles of the shadow box and the tachistascope.

Legibility studies which might be correlated with shelf visibility are conducted on the exposure instrument by utilizing the shadow box principle. The observers are seated, one at a time, directly in front of the instrument. The technique employed is illumination control. By varying the voltage on an incandescent lamp, a laboratory technician is able to regulate light intensity in gradual stages. Thus, at the beginning of the study the package is in total darkness. Light intensity is then gradually increased until the observer indicates that the brand name can be read. By checking the responses of several observers, it is possible to obtain the legibility factor, expressed in an absolute term, for each package studied.

Information on the memory-inducing property of the package is also obtained with the tachistoscopic function of the visual exposure device. In a typical study an observer views successively during controlled time intervals a series of packages. He is then asked to respond by writing the number of brand names he has perceived.

Our work in the investigation of the attention value of packages is in a very preliminary stage. However, one attempt may be described as follows: Using à similar operational technique, the observer views a series of packages, presented at controlled intervals. He then records the brand names which he has perceived. By inspecting the relative order of the responses of several observers, it is possible to rank the packages in the order of their attention value.

Depending upon the nature of the problem which is presented, it is sometimes necessary to supplement the foregoing studies with additional experiments. For instance, in connection with our own products, comprehensive studies are being conducted on new bottle designs so that we will be fully prepared for the return of private mold bottles.

An effective container must not only be attractive, but must be suggestive of the product. For this reason, we find it helpful to conduct association studies. We might find, for instance, that although a proposed bottle design is rated very high on attractiveness, still most of the observers find the bottle suggestive of cologne. A very fine container indeed—but NOT for whiskey.

Other types of studies involve the evaluation of the operations required to open and handle a package. Since a package is generally opened and resealed a number of times before it is empty, the closure should be simple to remove, and the bottle should be convenient to handle. In one study, the observers were asked to remove and replace the caps on three sample bottles, one bearing a clip-on cap, one a cork, and the last, a roll-on closure. In another type of study, the observers actually manipulate bottles and rate several proposed bottle shapes on the ease and convenience with which each bottle can be handled. Still another typical analytical study is designed to measure the illusion of capacity.

More than fifty companies have requested psychometric pretesting in our laboratories. It is understood by the company submitting the problem that our only interest will be derived from the valuable experience gained in applying a psychometric measure to their products. We have found that the more we know about the measurement of other consumer products, the more we know about our own. In connection with this program, psychometric studies have been conducted on such items as coffee, beer, soap, cigarettes, magazine covers, furniture, soup packages, hair tonic, chicken noodle dinner packages, perfume, sun-tan lotion, ice cream, furniture polish, chinaware, colas, book jackets, slide films, stage settings, beauty creams, milk, candy, rugs and bouillon.

Our fundamental conclusion, stated simply, is this: All products which are prepared or manufactured for human use lend themselves to human reaction measurement.

THURSDAY AFTERNOON

Chairman, R. F. Weber, *Manufacturing Research Dept., International Harvester Co., Chicago, Ill.*

Techniques of Export Packaging—John Mount, *Manager, Marine Service Dept., Insurance Co. of North America, New York.*

The underwriter, said Mr. Mount, keeps his finger on his worldwide pulse by having correspondents in all the leading parts of the world to which our overseas commerce travels. Quotations from some of their reports follow:

One dated February 28, 1947:

"We are considerably disturbed with the increasing number of heavy losses on shipments arriving at Manila and, in our opinion, any alleged improvement at any time over the past year has been merely temporary in nature. The substantial increase in pilferage losses is serious and there has been no real improvement in the handling or protection of cargo at the piers over the past six months. Apparently 90% of bad orders is a result of inadequate packing.

"We further understand that the handling charges in respect of carton packed goods have been considerably increased. It will, therefore, be to shipper's advantage to ship in wooden cases handling charges of which are described as much lower than for cartons."

These conditions exist not only in the ports that have suffered from warfare. From Brazil one reads:

"Inadequate packing has, of late, caused claims for breakage, in addition to tempting thieves and pilferers, To remedy this situation, suggest that all shippers of plastic articles, glassware, crockery, cutlery and powdered milk, etc., use strong wooden cases rather than cardboard cartons, due to the rough handling on the docks causing damage and consequent pilferage. The rough handling also does not permit shipments in open crates, or shipments of iron and/or steel machinery and auto parts in plywood cases, which invariably arrive damaged due to bad handling."

From Sweden and Shanghai came similar reports.

What can we do to avoid these pitfalls? What techniques can we adopt? My recommendations would be:

(1) Assign the responsibility for proper packing methods and materials to one person in your organization who knows enough about the products to be shipped to be familiar with the susceptibilities or possibilities of damage in transit. This person should be or should become well versed in packing techniques and transportation hazards.

(2) The person or persons so designated should then utilize the services of his insurance carrier, his transportation carrier and the technical knowledge of the supplier of his packing materials for they can give him no end of assistance in determining his packing techniques.

A few considerations as a guidance for the person responsible for packing methods are:

(1) The susceptibility of the item to be shipped to the transportation hazards involved.

(2) The kind of transportation and the number of handlings to which the containers will be exposed from the time it leaves the shippers warehouse or shipping department until it finally reaches the hands of the customer.

(3) The exterior pressures that are exerted against or on the container while it rides in the truck or railroad car, while it is stored in warehouse or pier awaiting loading, while it is in the stow in the hold of the vessel and then again the reverse at port of unloading.

(4) The exposure to atmospheric conditions, particularly dampness and changes in temperature which cause condensation to form on the cargo itself or on the metal parts of the ship's hold,

which in turn drips onto the merchandise causing damage.

(5) Most important is consideration that should be given to theft, pilferage and non-delivery exposures. The war's end has caused world wide congestion, and has brought about inadequate supervision; which, together with the shortages in most manufactured items, has developed black market operations beyond anything that has been experienced in the past.

(6) While the selection and type of container used is of course the most important consideration in the techniques of export packing, the marking of these containers after they have been packed is also of sufficient importance to devote some thought to it. Non-delivery losses in particular are often the result of improper or lack of proper marking. To begin with as little marking as is absolutely necessary should be put on the containers so as not to confuse the issue.

I would like to point out one comparison that has left us far behind. Anyone who has been around the piers or has seen import shipments has undoubtedly noticed various types of packages with the inscription "Britain Delivers the Goods."

While on one of the New York City piers recently I saw something which if followed will more than counteract our British competitors. The cases I refer to came from an American shipper and were prominently lettered "Another Shipment From the U.S.A."

In the course of his address, Mr. Mount exhibited a movie illustrating the hazards faced by export shipments, and picturing the damages caused by inadequate and improper packing methods and materials.

Points brought out during the question period following Mr. Mount's address included:

(1) Although—at a rate—any type of package is "acceptable" to the underwriter, the shipper is mainly concerned with the actual delivery of the shipment. The best way to insure that is proper packaging.

(2) Domestic type of packaging, as a rule, is inadequate for export shipments.

(3) Commercial shipping is slowly beginning to take advantage of some of the experience gained during the war. Special mention was made of Method II packaging.

(4) Coastwise or canal shipments can frequently make use of domestic packaging methods and materials that are inadequate for trans-oceanic freight.

(5) Services of commercial packaging concerns should be thoroughly investigated to make sure they are properly qualified with a knowledge and experience both as to inner and out packaging.

Packaging Economies Through the Unit Load—W. Gordon Bennett, *Packaging and Paper Standards Dept., Anaconda Copper Mining Co., New York, N. Y.*

During the war years Mr. Bennett pointed out, the Army and Navy did a great job in pushing the development of the unit load. They proved that, with proper equipment and training, countless hours of labor could be utilized elsewhere. The Army and Navy had the equipment, the warehouses, and personnel to handle these large unit loads. In the majority of cases private industry does not.

Here are some of the problems:

1. What is the average age of all manufacturing plants, mills and factories in the country? The general average for the country as a whole is 40 years. However, in order to present a true picture, it is necessary to consider the country sectionally. For instance, the average age of all New England plants is over 60 years. Philadelphia, New York and Baltimore—52 years. Chicago, Detroit and Cleveland—25 years —and the far West—15 years.
2. How many are equipped for platform unloading or overhead cranes that can take 2000 lbs. or better?
3. How many are forced to accept sidewalk delivery?
4. What is the capacity of the freight elevators in the customers' plant? Are the openings wide enough for capacity unit loads?
5. And finally—and the easiest of all—does he have the mechanical equipment to handle these heavy unit loads after he has received them?

The answer in the majority of cases is—no! The theory of distribution of materials has been or will be accepted by heavy industry. The annual savings are enough to stagger the imagination. But the application of the theory to actual practice will mean the expenditure of considerable sums of money before the practice becomes procedure.

For the past two years, my associates and I have been conducting a survey in a number of plants on the methods used to box, crate, and package fabricated products such as brass and copper sheets, rods, tubes and coils. The increasing cost of lumber used in case and cooperage made it imperative that we seek new methods and ideas for packing these products. A plan of operation was first decided upon, which consisted briefly of the following:

1. To check present methods now used to pack and crate all company products, and to compare the practices of each mill. This was necessary because, in the conversion to peace time production, it was found that the expensive packaging required by the Government in war time was not applicable to our present needs.
2. To establish standard procedures to be followed by all mills, thus eliminating warehouse confusion in handling same materials in several types of shipping containers.
3. To make available for all mills special packaging and casing practices that had been developed and tested in individual mills, new ideas, new materials, etc.
4. To impress upon all personnel concerned the large savings that could be accomplished by shipping in unit loads.

Prior to the war it was our general practice to ship most of our products in maximum loads of 500 lbs., and a great deal of pride was taken in the packing of the material.

The lessons learned during the war years, the improved mechanical handling equipment that has become available, made it possible for us to increase our loads from 500 lbs. to 4000 lbs. Thus by substituting a skid or a pallet, as the shipment may require, we eliminated 8 cases or crates or plywood drums depending upon the material to be shipped.

To illustrate a part of the savings effected, I should like to give a few examples.

1. An order calling for 100,000 lbs. of material that ordinarily would have been shipped in 500 lb. boxes was packed on 4000 lb. pallet loads. This required 25 pallets at a cost of $75.00. If we had packed this in the regular manner formerly in use, it would have called for 200 wood cases costing $4.25 each for each 500 lbs. packed, or a total packing cost of $850.00. The savings on this one small order amounted to $775.00, and our customer was delighted with the results, as it actually reduced his handling charges also.
2. A pallet was constructed to carry 4000 lbs. of material that formerly was shipped in crates with a capacity of 500 lbs. The pallet cost us $2.00—the crates $2.30 each, or $18.40—so, we saved $4.10 per 1000 lbs.

It is not only advantageous to ourselves, but also to our customers. It is much cheaper to handle one package than eight or ten.

In our type of unit load there is no standard pallet or skid. Until we have had many performance tests, the methods of loading and strapping must be tailor made to fit the product. A good many of the methods of packing which we have developed are only acceptable to a few of our larger customers, but the day is not far off when 5 and 10,000 lb. loads will be looked upon as the 500 lb. load is today.

Mr. Bennett used lantern slides to illustrate palletizing practices followed in the Anaconda plant. Of particular interest was a method of compressing multiwall sacks of heavy powdered chemicals to eliminate air.

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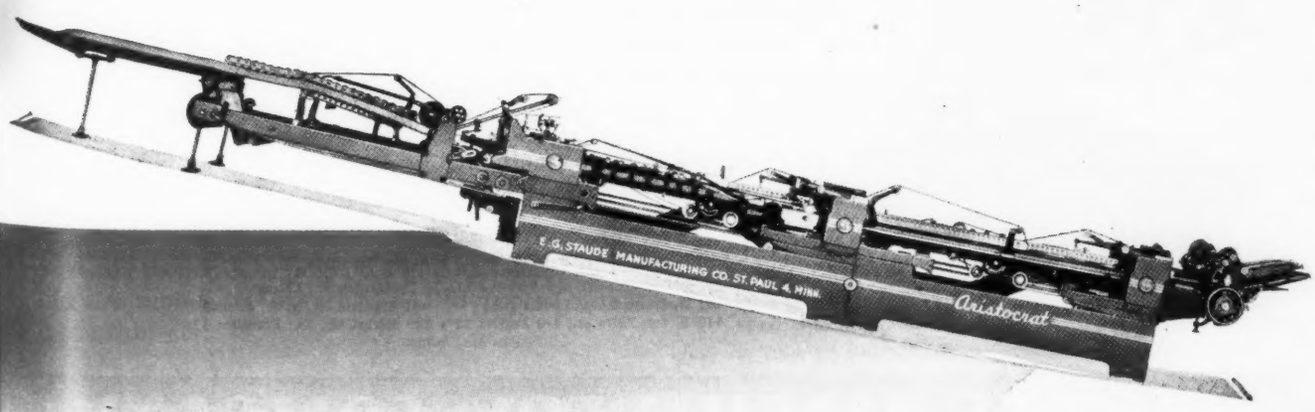

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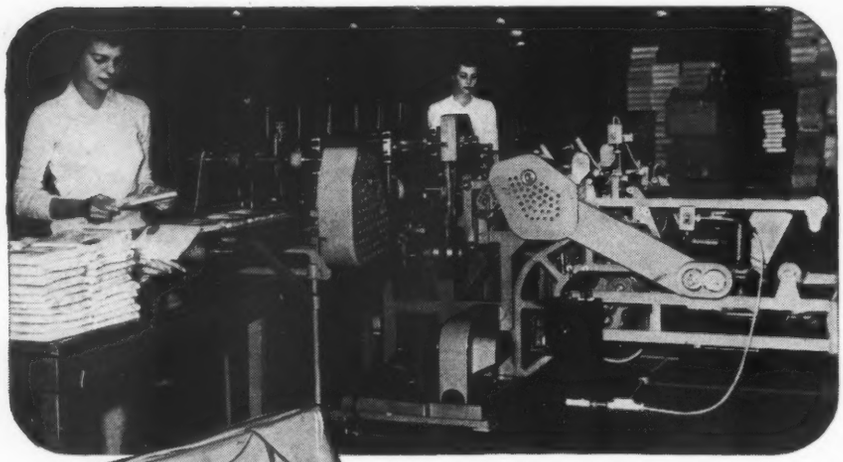

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TAPPI PAPERS

Package testing is major topic at annual meeting of paper technicians, with particular attention to testing of WVT at low temperature

Packaging technical men were well represented among the nearly 1,500 who attended the 32nd Annual Meeting of the Technical Assn. of the Pulp and Paper Industry in New York in February.

Two of the sessions were entirely devoted to package and package materials testing and other sessions contained papers of packaging interest. In all, more than a dozen papers devoted to packaging subjects were delivered. The packaging sessions were chairmaned by George R. Sears, of the Institute of Paper Chemistry, who is chairman of the TAPPI sub-committee on package material testing.

One session was a symposium on water-vapor permeability at low temperatures. Existing test methods were reviewed and several newly-developed methods were described. Other subjects presented included gas leakage in packages; transmission of odor; evaluation of sealed flexible packages and the effect of adhesive on fibreboard.

Worthen E. Brawn, of the Pejepscot Paper Co., was elected president of TAPPI and W. F. Gillespie, of the Gaylord Container Corp., was named vice president. The TAPPI Medal, awarded annually for the outstanding technical achievement in the paper industry, was presented to Peter J. Massey, general manager of the Bryant Paper Co., division of the St. Regis Paper Co., for his methods of standardization and technical control and for his wartime development of specialized packaging papers for the Ordnance Department.

The TAPPI sub-committee on package materials testing held a meeting during the convention. An announcement will be made later on procedures under study.

A paper by S. A. Pierce and J. F. Helms, of the American Can Co., on water-vapor transmission at low temperatures, is reprinted in full in this issue (p. 161) and several others will be presented in later issues. Following are summaries* of other TAPPI papers on packaging subjects:

Method for Locating Points of Gas Leakage in Packages and Packaging Materials—H. H. Hartwig, *Marathon Corp., Menasha, Wisc.*

Difficulties have been encountered in developing packages affording high levels of protection, due to variations in permeability to gases and water vapor. Resulting variations in packaging results pointed to the need for a method of detecting flaws and leaks in packages and packaging materials. Such a method has been developed, based on the formation of a brown stain at points where $SnCl_2$ solution, applied to one side of the test material, comes in contact with H_2S gas diffusing through flaws from the other side of the material.

A cell is constructed of the test sheet or package which permits introduction of H_2S gas under slight pressure to one side of the assembly. A solution of $SnCl_2$ is then painted over the entire opposite side of the sheet or package. The formation of brown stains of SnS at any point indicates the penetration of H_2S at such points. The location and rate of formation of the stains indicate the position and comparative size of pin holes and other flaws in the test material. A permanent record of the result may be obtained by flushing out the H_2S and washing off unreacted $SnCl_2$ before the cell is disassembled.

This method is a useful tool in determining location and degree of gas leakage with flat sheets, bags or overwrapped packages. It is also useful in determining at what point during converting or construction of the package, rupture or voids appear so that the cause of failure can be eliminated.

The Effect of the Adhesive on the Quality of Fibreboard: The Measurement of the Glue-line Strength of Corrugated Board—Ralph E. Green, *Thwing-Albert Instrument Co., Philadelphia;* Robert H. Sams, *Philadelphia Quartz Co., Philadelphia,* and John H. Wills, *Philadelphia Quartz Co.*

The quality of fibreboard depends on the adhesive, the paper and the manufacturing technique. Improved methods of judging the quality before fabrication should lead to improved adhesives and techniques. The measurement of the bond strength of corrugated board has not been standardized. Previous methods required either too much manipulation or too much possible human or mechanical error to be readily accepted. Revised equipment based on the separation of a chosen liner from corrugated medium by a tensile pull on steel pins inserted in alternate flutes has reduced the time required and the expected experimental error. Data from preliminary tests show that the pins available give a maximum bond strength at about 1 in. width and stiffer pins are desirable. The natural variation in the tensile strength of the paper or the paper-adhesive bonding layer appears to be greater than the experimental error. An

* Reprinted from the *Paper Trade Journal.*

attempt to correlate bond strength data with performance and other tests such as column compression tests should be made.

Postwar Developments with Asphalt Sizing on Cylinder Boards—E. M. LORENZINI, *American Bitumels Co., San Francisco.*

The history of emulsified asphalt from its wartime hard sizing uses through the transition stage to present-day domestic uses is given briefly.

Asphalt emulsions were used to produce boards which would withstand the 24-hour immersion test. They are now used for the slack sizing of kraft and jute liner boards, chipboards and various insulating boards. Color has not presented a problem in that the basic raw materials are brown in color though discoloration is apparent when the emulsions are added to light-colored liner stocks.

The cost of sizing with 1 to 2% of asphalt solids based on weight of fibre is given at $1.00 to $2.00 per ton of finished board.

Method of Evaluating the Fungicidal Properties of Treated Paper and Paperboard—B. F. SHEMA, *Institute of Paper Chemistry, Appleton, Wisc.*

Because of the interest in mildew resistant papers, a standard test method for evaluating the fungicidal properties of the product was developed. An inoculum prepared by inoculating a culture medium with a test organism (*Chaetomium globosum* or *Aspergillus niger*) is applied to the surface of the sheets to be tested. The fungicidal properties are then judged by the amount of growth, or lack of growth, on the test specimen.

The Gravimetric (Weighed-Cell) Method of Determining Water-Vapor Permeability—F. T. CARSON, *National Bureau of Standards, Washington.*

Most measurements of water-vapor permeability in the last 20 or 30 years have been made by the gravimetric (weighed-cell) method. The evolution of this method is outlined, including a discussion of such topics as the following: method of sealing; defining the area; diffusion and ventilation; condensation of moisture; desiccant in cell; vapor-pressure and moisture gradients; steady state of transmission; use of counterpoise; accelerating the test and agreement among common methods.

The consensus of the better techniques seems to require a wax seal completely enveloping the edges of the specimen and defining a predetermined test area by casting the wax around a template; a desiccant or a source of water vapor within the permeability cell close to the specimen and a well ventilated room, cabinet or oven at constant temperature and humidity in which to expose the cell. There is a tendency to limit the higher humidity to 90% to 95% to avoid condensation and other irregularities at very high humidities. There is also emphasis on weighing the cell in the atmosphere in which it is exposed.

Some data from previously published reports are combined to show how permeability results by different gravimetric methods may be expected to agree.

Included in this presentation are lists of water-vapor transmission rates for some representative types of frozen food containers and for materials commonly used in package construction. These rates are profitably used in comparing different types of containers and in evaluating construction variables. Greater benefits could be realized, however, if water-vapor transmission rates were correlated with the actual effects of extended storage at commercial conditions as observed in product packs.

A Flow Method for Determining Water-Vapor Permeability at 0 Deg. F.—FREDERIC H. CHEREPOW, *Marathon Corp., Menasha, Wisc.*

An adaptation of the isostatic method developed by Davis for determining gas permeability is used to measure water-vapor permeability over a wide range of temperature and vapor pressure differences, with particular emphasis on studies at lower temperatures, e.g., 0 deg. F.

In this flow method, air, saturated with water vapor at 0 deg. F., is passed at a known rate over one side of a series of test sheets held in a diffusion cell maintained at 0 deg. F. Air, dried to essentially 0% relative humidity at 0 deg. F., is passed over the other side. The water vapor in each effluent air stream is continuously absorbed in desiccant and determined gravimetrically. Permeability is measured by the rate of gain of water vapor in the dry air. Comparison of total water vapor in both air streams on exit from the cell with the theoretical amount in the entering air serves as a check on the accuracy of the determination. Test sheet areas up to 2,283 square centimeters and test periods up to 24 hours or longer are used to increase the sensitivity of the method when testing sheets of low permeability.

Features of the flow method are: (1) The flow of air over both sides of the test sheets avoids stagnation. (2) Large testing area permits the reduction of testing time to reasonable values. (3) Permeation rate is determined by gravimetric analysis, where absorption and subsequent weighings are conducted at room temperature (70 deg. F.). Therefore, the test assembly is not subjected to undesirable wide temperature-humidity fluctuations.

Sources of Variability in Water-Vapor Permeability Determination—MAYNARD S. RENNER, *Dewey & Almey Chemical Co., Cambridge, Mass.*

Wartime and postwar developments have given increasing importance to the problem of protecting packages from penetration of water vapor and hence to the problem of measuring rate of transmission of water vapor through a packaging material.

The cup test is widely a used procedure for measuring this characteristic. The material to be tested is sealed across a cup containing desiccant, exposed to high temperature and humidity, and the gain in weight with time determined as a measure of the amount of water vapor transmitted. There is considerable variability in this test and this paper is concerned with the results of a designed test conducted to learn more about the source and magnitude of this variability.

A special cabinet operating at 100 deg. F. and 90 to 92% relative humidity (TAPPI T464m-44) was used with a special cup (exposed area 5.81 sq. in.). Synthetic Pliofilm was used as a membrane. Fifteen cups were prepared and positioned at regular intervals throughout the cabinet to give a measure of the contribution to total variability of both shelves and position on shelves. After a conditioning period, weighings were made for six successive days giving a total of 90 weight-gain values.

The mean of these 90 values gave a water-vapor transmission rate (WVP) of 0.52 g./100 sq. in. which corresponds with WVP values obtained for the same film by other laboratories indicating that WVP values can be checked when large samples are used, but detailed scrutiny of the data shows much variability.

This variability is studied by means of variance analysis. The days were found to be the most important source of variability, when the F test was applied days, positions and layers were found to make significant contributions to the variability. The interaction between positions and layers also had a significant effect. The joint effect of days and positions was not significant and the joint effect of days and layers was of questionable significance. The triple interaction term was small, indicating that the error of the experiment (other than the variability assignable to days, layers and positions) was small and that the film tested was uniform.

The variability due to days is ascribed to daily variation in the temperature of the room in which the cabinet was stored. The position and layer variability are believed to be caused by variation in circulation of air within the cabinet.

This experiment has resulted in giving a better knowledge and understanding of the source and magnitude of the variability of WVP determinations.

LOW-TEMPERATURE WVT*

Describing a new method of testing frozen food package transmission by passing a controlled current of dried gas through a sealed cell to pick up water vapor emanating from the sample

by S. W. PIERCE[1] and J. F. HELMS[2]

A method has been sought primarily for the determination of the water-vapor transfer of completed frozen food containers at conditions approximating those of storage. The literature contains few references to methods applicable to tests at low temperature on either sheet materials or complete packages. Carson (1),† in his compilation of 30 literature studies, lists one low-temperature cup method; the work done by Tressler and Evers (2) in 1935. Further work on sheet materials, described by Dubois and Tressler (3), is listed in the bibliography of the Institute of Paper Chemistry's Instrumentation Studies (4). Further, from this same source, is the work carried out by Kaess (5) involving the use of a gas current to transmit water vapor. More recently there has appeared a recommended standard test procedure for frozen food packaging materials (6).

The general method of using a cup with desiccant or water sealed beneath the sample is well suited to testing at high temperatures and is adaptable as well under similar conditions to the testing of fibre containers. However, attempts to apply this direct approach in the determination of the water-vapor transmission rates of containers at a temperature below 32 deg. F. revealed grave difficulties. Removing the containers from test storage for the necessary periodic weighing operations and exposing them to room temperature even briefly resulted in serious error due to condensation of water on the surface. Particularly was this true of packages with metal ends. The intermediate step sometimes recommended of placing the cold samples in a desiccator until temperature equilibrium is established was considered to have real objections. Conditioning in this manner is not only time-consuming but it also introduces the possibility of error from changes in the moisture content of the package itself.

Consideration was given to the construction of a test cabinet in which the handling and weighing of samples could be carried out by remote control from the outside, but this was abandoned because of the obvious complexity of an apparatus of this type adapted to low-temperature work. The most simple method, that of conducting all manipulations at the test temperature, was clearly impractical because of the physical inconvenience to the operator. These limitations indicated that the desirable method would be one in which the test sample was not removed from low-temperature storage during the course of the determination. The present indirect method in which a dried gas removes the water vapor from a cell in which the sample is sealed was then evolved.

Applications of a similar principle are to be found in the work of Thomas and Reboulet (7), Wosnessensky and Dubnikow (8), Lishmund and Siddle (9) and Edwards (10) on high-temperature water-vapor transmission determinations. More recently a method has been described by Davis (11) and suggested for the low-temperature study of sheet materials.

The apparatus to be described was developed to provide a rapid water-vapor transmission test method under conditions simulating the most adverse actual storage conditions. However, the arrangement and construction of the equipment are such that changes in temperature and humidity to permit testing at less stringent conditions can readily be made. Also, it is adaptable to testing sheets as well as containers.

Description of apparatus

The apparatus (Figs. 1, 2 and 3) consists of an enclosed gas system, the larger part of which is inside an American Instrument Co. constant-temperature cabinet (Model No. 4-3332). The cabinet is divided into two compartments, a dry ice chamber as the refrigerant source connected by a blower to the test chamber. A bimetallic thermoregulator with a sensitivity of ±0.09 deg. F. controls the blower, while a second fan operates continually in the base of the test compartment to promote circulation. The combination provides very accurate temperature control. The cabinet is also equipped with a heating coil, so temperatures can range from −100 deg. F. to +220 deg. F.

For the present work it was desirable to modify the test chamber section of the cabinet by substituting in place of the regular cover a false top made from two sheets of Celotex, separated by wooden slats about 3 in. thick. Through this cover the inlet and outlet tubes were led and its use made it unnecessary to alter any part of the equipment permanently. Although this top does not possess the insulating properties of the regular cover, it is suitable for work at 0 deg. F.

The gas used as a medium to transport water vapor

* Paper presented before the 32nd Annual Meeting of the Technical Assn. of the Pulp and Paper Industry, New York, Feb. 24 to 27, 1947, under the title, "A Method for the Determination of Water-Vapor Permeability at Low Temperatures." Original publication in *Paper Trade Journal*.

[1] Chemical Engineer, Research Division, American Can Co., Maywood, Ill.
[2] Chemist, Research Division, American Can Co., Maywood, Ill.

† Figures in parentheses refer to "Literature Cited" appended.

in this system is nitrogen, selected because of its chemical inertness and because it is readily available with a low content of water vapor. It has been found to be entirely suitable for the purpose.

In the operation of the equipment, compressed nitrogen controlled by a needle valve is supplied to the apparatus at a constant rate, as shown by the flowmeter (*B*, Fig. 1). The gas passes through an oil block (*C*), which prevents back flow when the supply is shut off, to the first of two drying columns (*D*). This column contains calcium chloride and the second (*E*) contains Dehydrite (anhydrous magnesium perchlorate). The dried nitrogen then enters the low-temperature section inside the test cabinet and is led first through a coil of $^1/_4$-in. copper tubing (*F*) 27 ft. in length in which the gas is brought to test temperature. The exit end of the coil is brazed to the center of a horizontal manifold consisting of a 20-in. section of $^5/_8$-in. copper tubing sealed at either end. Six lengths of $^1/_4$-in. tubing are brazed at even intervals along the opposite side of the manifold through which gas is conducted to six test cells.

The cells (Fig. 2) are formed from 11-gauge steel tubing with top and base made from discs of $^3/_{16}$-in. sheet steel brazed to the cylindrical sections. Each cell has an inside diameter of 5 in. and an inside height of 6 in., dimensions which are adapted to the accommodation of typical frozen food packages. The cover rests on a rubber gasket in a groove concentric to the top of the cell and is held tightly in place with three C-clamps. The copper inlet tube brings gas into the cell at the top, just below the flanged section, and a similar tube conducts it away from an exit near the base, diametrically opposite. This arrangement promotes circulation and movement of gas in the cylinder.

The exit tubes from the test cells lead the gas to U-tubes (*H*, Fig. 2), containing Dehydrite, outside of the low-temperature chamber. On the exhaust side of each weighing tube is a gas bottle containing mineral oil and a pinch clamp on the outlet. This combination is used to equalize the flow in the six separate streams and to maintain a slight constant pressure in the system. A gas flow of approximately 390 cc. of nitrogen per minute is introduced at the beginning of the system and the six exhaust streams are periodically checked with a flowmeter to insure that division is uniform. The rate was calculated on the basis of a complete change of gas in each cylinder every 30 min. and, though arbitrarily chosen, was found satisfactory.

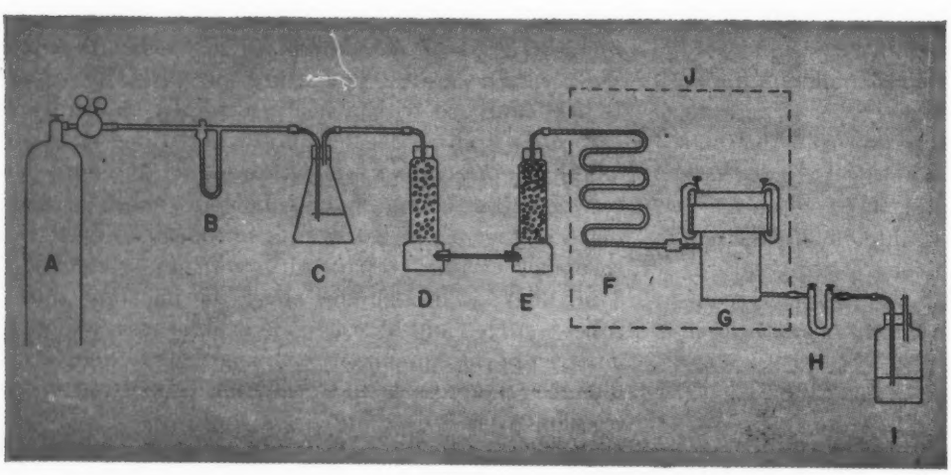
All parts of the system contained in the low-temperature cabinet are of metal and have brazed joints. The external system is of glass and the connections are made with short sections of heavy gum rubber. A fine wire thermocouple is used to obtain a constant check on temperature in the test cells.

Procedure

Testing completed containers. The low-temperature cabinet is adjusted to operate at a temperature of 0 deg. F. and the nitrogen flow at a rate of 390 cc./min. The containers to be tested are filled with water-saturated blotters or sponges, allowing head space for expansion during freezing, and are then sealed and placed in the cylinders to be frozen. A period of 24 hours is allowed for the test containers to become frozen and to attain a constant rate of water-vapor transfer. The weighing tubes are then placed in the gas circuit and the weight gains determined every 24 hours.

Since the weight increments are quite small for some containers, the U-tubes are weighed on a four-place analytical balance. The tubes are allowed to condition in the balance case for 30 min. and the pressure equalized with the barometric pressure before each weighing. The weight determinations are continued until a plot of the grams gained against the time shows a straight line relationship. One hundred hours will usually suffice to complete a test. The rate of water-vapor transmission can then be determined from the straight portion of the curve. At the conclusion of the test period each container is examined for structural failures or other faults which might result in a false test.

Testing sheet materials. Although the method was developed for water-vapor transmission studies of containers, it appears to be well suited to the testing of sheet materials. Water-vapor transmission rates on flat stock samples of such component parts of frozen food containers as cellophane wrappers, aluminum foil,



1. Diagram of apparatus: *A*, compressed nitrogen cylinder; *B*, flow meter; *C*, gas flow check; *D*, drying column (calcium chloride); *E*, drying column (anhydrous magnesium perchlorate); *F*, coil; *G*, test cylinder; *H*, gas tubes; *I*, pressure bottle; *J*, constant temperature area.

etc., can be determined by the use of uniform test cups filled with water-saturated blotters or sponges. The method of cup preparation outlined in TAPPI Tentative Standard T 464 m-45 of the testing methods of the Technical Assn. of the Pulp and Paper Industry is suitable. However, because ordinary wax sealing mediums shrink noticeably at low temperatures, it was felt that a more secure seal was required for such tests. Determinations made with metal discs in place of test membranes in the cups showed the Petrolatum-U. S. P. was a satisfactory and efficient agent for this purpose. Tests on flat stock were conducted exactly as with containers and rates were determined at the completion of a 100-hour testing period.

Results and application of method

Containers. Tests were made first on various types of containers to determine both the magnitude and the range of weight changes and the length of time necessary for different containers to attain steady states of water-vapor transfer. In Table I are shown rates obtained for a variety of typical containers.

The water-vapor transmission rate for a completed container is not only a measure of the water-vapor permeability of the body wall material, but also is related to other characteristics of the package as a complete unit. It is affected significantly by variables introduced in manufacture, such as the completeness of closure and the effect of bending and creasing on the constituent parts of the container during body formation. Due to the number of factors contributing to the rate, it is advantageous to consider the container as a whole and express the gain in grams per week regardless of container dimensions. This is permissible, of course, only when dealing with packages of approximately equal content.

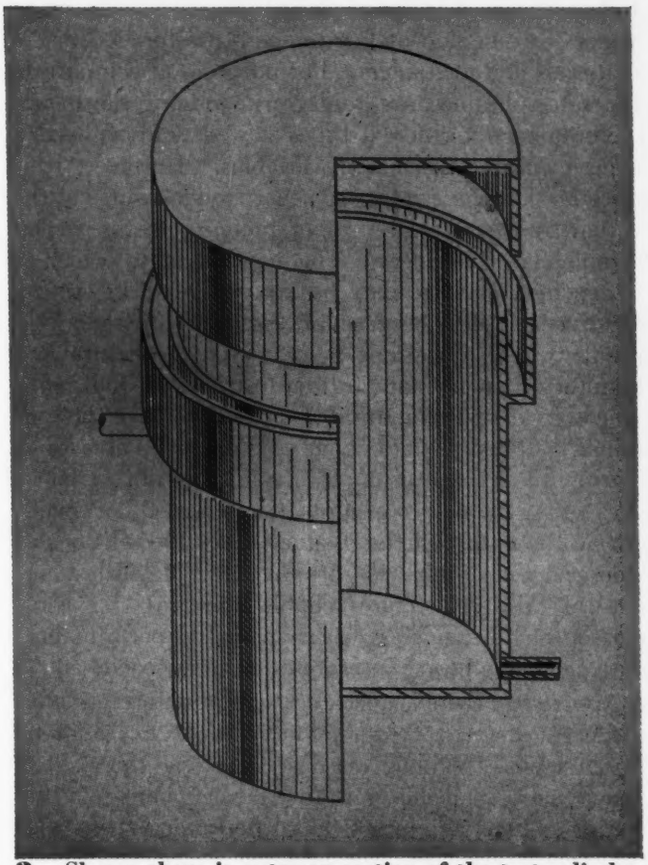
Sheet materials. Table II lists water-vapor transmission rates for some of the materials frequently used in frozen food containers. These rates are expressed as the gain in grams per 100 sq. in. in 24 hrs. From these rates an estimate can be made of the extent to which closure and body deformation contribute in the transmission rate of the whole package.

Although the comparative performances of these and other applicable sheet materials provide a wide field for investigation, they have necessarily formed a minor part of the work for which this apparatus has been used. However, the derivation of WVT rates for flat stock samples has permitted observations to be made on the precision and reproducibility of this method which are not possible in tests on complete containers. Repeated determinations on homogeneous sheet materials have indicated excellent reproducibility, justifying confidence in the results of tests on packages where the incidental variation from sample to sample often results in a significant qualitative difference between containers which are nominally identical.

The method which has been described has proved

TABLE I—0° F. WVT OF FROZEN FOOD CONTAINERS

	Description of Container	*Rate grams/week/container*
1.	Composite can (paperboard body and metal ends); no protection to passage of water vapor	0.64–0.86
2.	Composite can (ethylcellulose body and metal ends)	0.28
3.	Composite can (paperboard body with outer ply of 0.001 aluminum foil and metal ends)	0.04
4.	Same as No. 3, wax sprayed inside	0.03
5.	Same as No. 3, wax-dipped	0.02
6.	Folding box of waxed paperboard, inner bag of glassine, outer wrap of heat-sealed wax paper	0.02–0.03
7.	All-aluminum container, heat-sealing adhesive	0.02
8.	Composite can (paperboard body and metal ends); body treated with modified paraffin wax	0.01–0.03



2. Shown above is cutaway section of the test cylinder.

TABLE II—0° F. WVT FOR SHEET MATERIALS

	Material	*Rate grams/100 sq. in./24 hrs.*
1.	0.017 paperboard	0.907
2.	0.0018 waxed paper (creased)	0.317
3.	0.0018 waxed paper	0.042
4.	Rubber hydrochloride film	0.016
5.	0.00035 aluminum foil	0.012
6.	0.017 paperboard, wax coated	0.004
7.	0.0009 moistureproof cellophane	0.003
8.	0.0007 aluminum foil	0.000

to be well suited to the accurate measurement of water-vapor transmission at low temperature for both sheet materials and containers. For purposes of comparison the rates obtained are valuable in judging the merits of containers of different types as well as in evaluating experimental construction variables. However, it is obvious that these rates are never true measures of the actual transfer of water vapor taking place in packed commercial containers. The conditions to which a frozen food package may be exposed when in use are so diverse, both because of essential differences in products and variations in storage temperature and humidity, that no standardized test in itself could provide even an approximation of the real worth of the container. Actually, there is no such average value, as it is true in this case—as of all substantially fibrous packages—that the degree of protection afforded is dependent on the nature of the product and the conditions of storage. Since this test or any other furnishes numerical rates which are reliable standards for comparison but meaningless when applied to performance, data to enable proper interpretation are needed.

Apparently there is a lack of accurate information on the exact degree of protection required by different frozen foods. Various reasons, including those cited above as responsible for the development of this method, make it impractical to determine these specific values directly. The necessary relationship could readily be established, however, by a series of tests in which representative frozen food containers whose water-vapor transmission rates at 0 deg. F. have been determined are packed with products known to be severely affected by dehydration and stored at typical refrigerated conditions. Regular examinations conducted over a sufficiently extended storage period would then fix the life of each package for each product and establish the desired correlation between performance and rate of water-vapor transfer. More comprehensive testing would include products only moderately or slightly degraded by dehydration, as well as an investigation of storage at various conditions.

Such complete information would not only permit the correct usage to be made of present containers but would also aid in classifying new packages and eliminating unsatisfactory types from consideration. Once the relationship had been determined, containers could be graded precisely entirely on the basis of their water-vapor transmission rates of 0 deg. F.

Acknowledgment

The authors wish to acknowledge the helpful suggestions and criticisms offered by Dr. L. E. Hoag and Mr. T. E. Dobbins.

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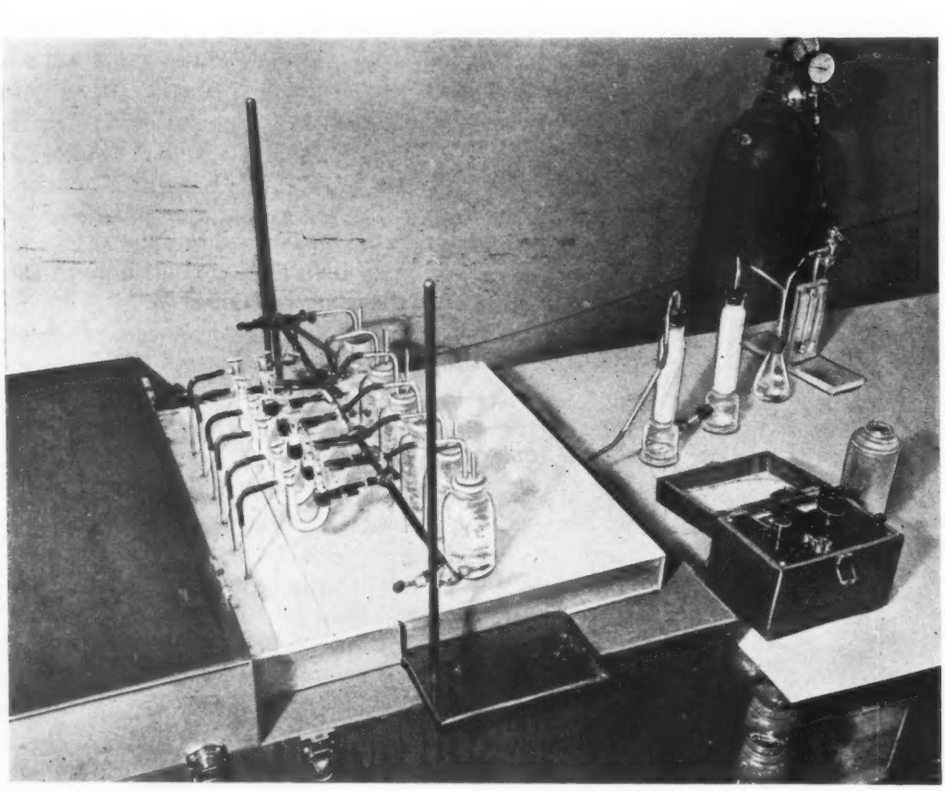


3. Photographic view of the test apparatus shown in diagrammatic form in Fig. 1.

Standard Test Methods

10. For greaseproofness

Definition

Greaseproofness is the resistance of a material to transudation by oils.

Intent and scope

This test gives an accelerated comparison of the relative rates at which oils will penetrate packaging materials. Oil from the product to be packaged or turpentine is used as an index of greaseproofness.

Reagents and accessories

A. Reagents (*See Fig. 1*)—

1. Turpentine, red colored; water-free. To 100 ml. pure, gum spirits turpentine, C. P., sp. gr. 0.860 to 0.875 at 60 deg. F.[1] add 5 gms. anhydrous calcium chloride and 1.0 gm. Du Pont oil-soluble red dye.[2] Stopper container, shake well and allow to stand for at least 10 hrs., shaking occasionally. Then filter through a dry filter paper at approximately 70 deg. F. and store in an airtight bottle.

2. Oil cold pressed from product, filtered, colored, water-free.

B. A cabinet or room temperature controlled at 100 deg. F. with suitable shelves, light, etc.

C. A rigid tube, 1 in. inside diameter and not less than 1 in. high, the end of which has been smoothed.

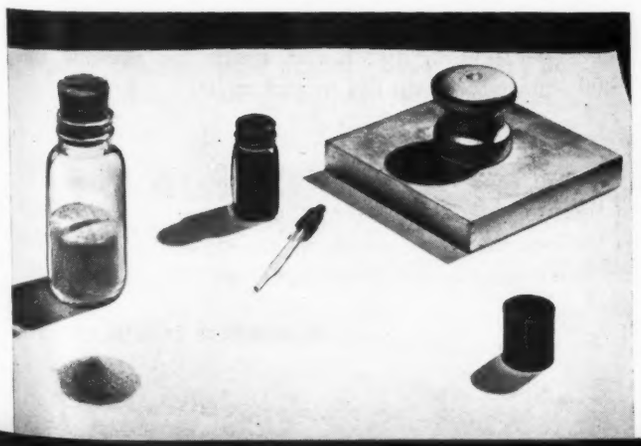
D. A pipette or medicine dropper, calibrated to deliver 1.1 ml.

E. Round-grained sand, screened to pass a No. 20 and be retained by a No. 30 sieve. Ottawa cement testing sand[3] is recommended.

F. Cumberland gloss No. 2 coated 80-lb book paper, 25 by 38—500 basis of convenient size,[4] or white blotter paper.

[1] From J. T. Baker Chemical Co., Phillipsburg, N. J.
[2] E. I. Du Pont de Nemours & Co. Wilmington, Del.
[3] Ottawa Silica Co., Ottawa, Ill.
[4] S. D. Warren Co., Cumberland Mills, Me.

1. Reagents and accessories required for greaseproof test.



REPRINTS WANTED?

With this article MODERN PACKAGING concludes its publication of standard test methods recommended by the Technical Committee of the Packaging Institute for adoption by members of that body. A series of 11 articles has been published in these pages, starting with the issue of July, 1946. Use of the test procedures, developed after several years of study, is of course not limited to P.I. members; it is hoped that they will become the standard of the entire industry.

Type has been kept standing and if sufficient interest is evidenced by our readers, we will reprint these 11 articles and gather them into a single folder which can be supplied at a nominal charge. If you would be interested in such a reprint, please write to the Technical Editor, MODERN PACKAGING, 122 E. 42 St., New York 17, indicating the number of copies you can use. If sufficient orders to justify the reprint are received a definite announcement will be made.

Tests included in this series are:

1. **For water-vapor permeability at 0 deg. F.**
2. **For water-vapor permeability at 100 deg. F.**
3. **For heat-sealing strength and characteristics.**
4. **For gas permeability of low-permeability films.**
5. **For block point.**
6. **For tensile strength and elongation.**
7. **For flammability.**
8. **Drop test.**
9. **For WVT of packages at 100 deg. F.**
10. **For greaseproofness.**
11. **Yield values of packaging materials.**

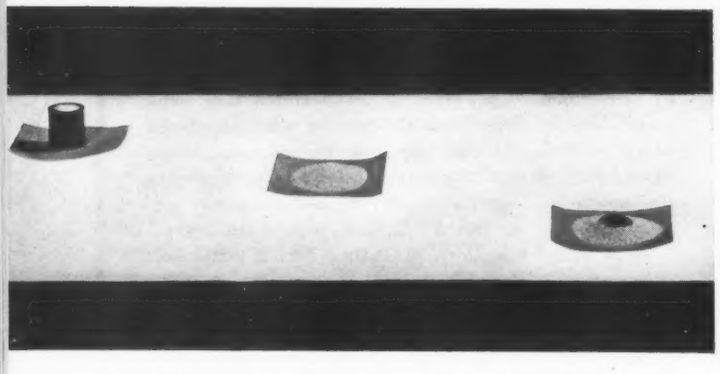
Test sample

A. Sampling—Three representative samples, 4 in. by 4 in., test flat.

Three representative samples, 4 in. by 4 in., test creased (see Figs. 2 and 3).

2. First step in the preparation of the creased sample.

3. Second step in preparing sample with crossed crease.



4. Final steps in procedure, showing sample under test.

Test procedure

A. Standard conditions (room temperature) turpentine: Place each sample on a piece of book paper or blotting paper which rests on a smooth, plane surface. Stand the tube on the specimen and pour 5 gms. of sand into it. Remove the tube immediately after adding the sand, since the sole purpose of the tube is to assure a uniformly sized sand pile. Using the calibrated pipette or medicine dropper, add 1.1 ml. colored turpentine to sand (see Fig. 4). Note time.

Shift the test specimens to different spots on the paper and examine the previously covered area for stains. Shift the samples every 30 seconds for the first two minutes, every minute for the next eight minutes and every three minutes thereafter for 30 minutes. Note the time in seconds the first red stain appears.

B. Perform the test as indicated under *A*, except that colored oil from the product shall be used. Under these conditions the tests are to run at 100 deg. F. to insure that the oil is fluid.

Calculations

Average the time in seconds for the three test specimens, both flat and creased.

Report

A. Standard conditions (room temperature) turpentine: Results are reported as greaseproofness (turpentine transudation) in seconds. All tests over 1,800 seconds are reported as 1,800+ seconds. Any average result containing an 1,800+ result is reported with a plus sign.

B. 100 deg. F. (oil from product): Report the time in seconds with transudation in both flat and creased samples together with a notation as to the estimated composition of the oil.

Remarks

The turpentine test for greaseproofness is a useful standard or index for arbitrarily evaluating materials. Actually, of course, turpentine rarely occurs as an ingredient in a packaged product and, therefore, the test with the product oil or fat is more useful for specific and comparative information.

References

TAPPI, *Testing Methods, Recommended Practices Specifications* T454 M-42, *Turpentine Test for Grease Resistance of Paper.* JAN-P-121.

11. Yield values of packaging materials

Definition

Yield or yield value is the surface area per unit of weight or the weight per unit of surface area.

(1) As the number of square inches per pound.
(2) As the pounds per thousand square feet.

Intent and scope

The object in determining yield is to find the weight in pounds of 1,000 square feet of material and also the number of square inches in one pound of the material.

Reagents and accessories

A. Analytical balance or a balance with a sheet weighing device.

B. Metal template 10 in. by 3.173 in.

Test sample

A. Sampling—Three samples—one from the middle and one from each side—are cut accurately, using the metal template as the guide device for this purpose.

Test procedure

Fold the sample to convenient size for clipping into the sheet weighing device and accurately weigh the sample. Record the results in grams to the fourth decimal place.

Calculations

To convert to pounds per 1,000 square feet, multiply the weight in grams by 10. To convert to square inches per pound, divide the result for pounds per 1,000 square feet into 144 square inches.

Report

Record the results for pounds per 1,000 square feet to the first decimal place and square inches per pound to the nearest whole number—the separate results for the three samples and an average.

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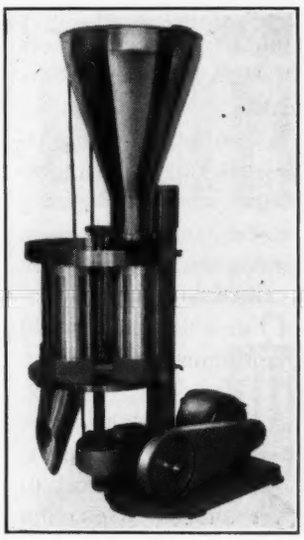

BENCH MODEL B-3
Illustrated

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This consultation service on packaging subjects is at your command. Simply address your questions to Technical Editor, Modern Packaging, 122 East 42nd St., New York 17, N. Y. Your name or other identification will not appear with any published answer.

Plastic containers for lubricants

QUESTION: One of our clients, a large national distributor of motor lubricants, is interested in obtaining information on a clear plastic container, possibly in one-quart and five-quart sizes which could be produced in quantity and would be suitable for retail distribution. This container can be formed, molded or blown, or a combination of both metal and plastic. We would greatly appreciate any information or reference you can send us toward locating a possible source for these containers.

ANSWER: There are several different plastic materials which are capable of holding lubricating oil without deterioration. However, there are two problems which have prevented the general adoption of all-plastic containers for the commercial packaging of lubricating motor oils.

One is the fact that it requires heavy gauges of plastic to meet the physical requirements of one-quart or five-quart units and, secondly, there are no high speed automatic production lines for manufacturing containers of this type. The net result of both of these facts is that plastic containers for lubricating oils are extremely expensive. A plastic one-quart container for lubricating oil in currently available materials and manufacturing processes would probably cost very many times more than the present metal (ternplate) cans. It is also doubtful whether or not a successful plastic container could be fabricated in the five-quart size because of excessive thicknesses of the wall which would be necessary and the physical requirements of such a large container.

At least one company has done considerable work on the blowing of plastics into container form. However, such containers have been limited because of cost to products which have these rather unusual packaging requirements.

The combination of metal ends and plastic side walls would, of course, improve durability and reduce cost, but it is still questionable if final consideration of both of these factors would place such a container in the class of the existing metal cans. The 1946–47 edition of *Modern Packaging Encyclopedia* will give you additional information as to companies manufacturing plastic containers.

Sources for fibre milk containers

QUESTION: We have an inquiry for which we should value your help. Some of our friends in this country (England) are interested in a square section fibre milk container which is widely used in the U. S. A., milk packaged in this way being supplied in railroad cars, etc., and they wish to obtain a few samples and get in touch with the maker. The container is made in a small size, believed to be half a pint. Can you assist us in this matter by supplying us with the name and address of the maker of these containers?

ANSWER: There are several companies making square wax board milk containers of the particular type in which you are interested. One of these is the American Can Co. with main offices at 247 Park Ave., New York, and another is the Ex-Cell-O Corp., located at 1200 Oakman Blvd., Detroit, Mich.

The American Can package is in the shape of a rectangular prism in which the cross section is square. The closure is by means of a paper plug. The Ex-Cell-O container is made with a rectangular cross section and with a crimped-in top which means a pent-shaped package. The opening is by means of a tear out strip in the side. If you are interested, samples can be obtained directly from the companies indicated.

A list of other companies making paper milk bottles is as follows:

American Paper Bottle Co., 1813 Collingwood Blvd, Toledo, Ohio.
American Sealcone Corp., 1911 Park Ave., New York.
Brown & Bailey Co., 417 N. 8 St., Philadelphia 23, Penna.
Continental Folding Paper Box Co., Inc. Ridgefield, N. J.
Fibreboard Products, Inc., 710 Russ Bldg., San Francisco 6, Calif.
The Gardner-Richardson Co., Middletown, Ohio.
Sealright Company, Inc. Fulton, New York.
Single Service Containers, Inc., 205 E. 42 St., New York.

The CONSOLIDATED *High Speed* COFFEE UNIT

The Consolidated Type 45-C-10 High Speed Coffee Weighing Unit raises the speed of packing coffee in tins, cartons or jars to a new high. This unit fills, weighs and settles 100 cans of ground coffee per minute.

The machine is designed to handle ½, 1, and 2 lb. weighings and has a 10-head scale with individual discharge spouts. The conveyor is equipped with a vibrating settler and package control. Accuracy is maintained to 1/16 oz. over or under. Once the machine is set, the entire operation is automatic.

The full range of coffee grinds... drip, percolator, regular, silex and steel-cut... can be handled on the Consolidated C-10.

Write for complete information and prices.

CONSOLIDATED PACKAGING MACHINERY CORP.

1400 WEST AVENUE, BUFFALO 13, NEW YORK

A PACKAGE THAT APPEALS AND SELLS!

TRANSPARENT *Plastic* BOXES... CANS

- Confections
- Cosmetics
- Bakery Products
- Jewelry
- Toys
- Plastic Novelties

Hundreds of these and other products are more readily "saleable" packed the Modern, *Transparent* Way.

Appeal to the "Impulse" buyer as well as the "Shopper." Your product will get the decision twice as often.

WEINMAN BROTHERS, INC.
Est. 1919
325 N. WELLS ST. CHICAGO 10

FOR BETTER PACKAGING

WRITE, PHONE or WIRE for Quotations on Your Requirements for

PARTITIONS

IMMEDIATE ATTENTION
Given to Requests for Estimates

Prompt Deliveries Guaranteed

PETER

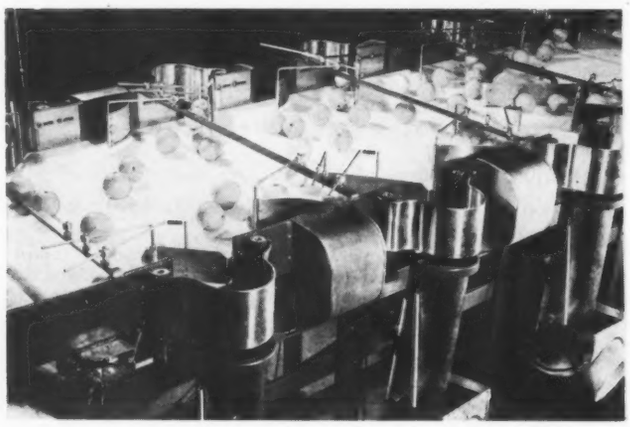
Reasonable Prices Assured

PARTITION CORP.
Manufacturers of Partitions for Paper Boxes
647-649 LEXINGTON AVE. BROOKLYN 21, N. Y.
Telephone: FOxcroft 9-2129

Equipment and Materials

PRODUCE BAGGING MACHINE

Piowaty-Bergart Co., Chicago, has developed a bagging machine which automatically packages onions, oranges, potatoes, apples and similar produce into consumer sized bags of 10 lbs. or less. The model shown is said to have an output of



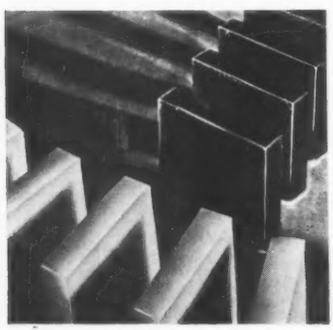
2,000 packages per hour. A conveyor belt carries the produce along to filling stations. Stainless steel baffles divert the produce to the bucket openings. When the predetermined weight fills the bucket, it is discharged. Overflow produce is returned on lower conveyor belt.

PLASTIC-METAL DECORATIVE MATERIAL

"Miramesh," a plastic base material with a film of aluminum, said to possess extreme stability and resistance to tarnishing, is a new product for decorative packaging and displays. The material is a Saran screen filled by a cellulose acetate film. A thin film of aluminum applied on one side by high-vacuum evaporation imparts high reflectivity and brilliance. It is available in gold and silver sheets 36 by 66 in. from National Research Corp., Boston.

NEW PETROLEUM WAX

Sun Oil Co., Philadelphia, Pa., announces the availability of of a new petroleum wax, of the microcrystalline type, known as Sunwax 1290. The new product is said to be relative hard, non-brittle and non-sticky. It is made in both yellow and brown grades; both have melting points of 175 to 185 deg. F., a penetration of 15 maximum and are otherwise similar in general properties. This highly refined wax, the makers report, is suited for the lining of paper, wood or metal containers.



NEW HEATING TANK

D. C. Cooper Co., Chicago, announces a new electrically heated and thermostatically controlled tank for heating asphalt, pitch, waxes, ethyl cellulose and other compounds which require a temperature ranging up to 400 deg. F The tank, useful in dip-coating tools, precision instruments, etc., is designed to eliminate cold spots and to effect uniform heat.

LAMINATED, REINFORCED TRAY

Tripl-Tite Trays Division of Standard Folding Trays Corp., Brooklyn, N. Y., offers to the produce pre-packaging field a reinforced folding tray said to be particularly adapted to handling in cellophane-overwrapping machines. The tray has a laminated bottom and triple-reinforced ends. Supplied in a range of sizes and shapes to fit either fruits or vegetables, they are shipped flat and can be erected by a single operator at as fast a rate as 60 a minute, it is claimed.

LABELING AND PROTECTIVE COATING ADHESIVE

National Adhesives, New York, announces that a new all-purpose labeling and protective coating adhesive used during the war is now available for industrial applications. Known as "Resyn Adhesive Q3605," the product is useful for labeling industrial chemical containers for permanent identification necessary from a safety standpoint.

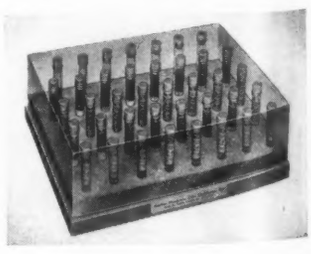
NEW CONVEYORS

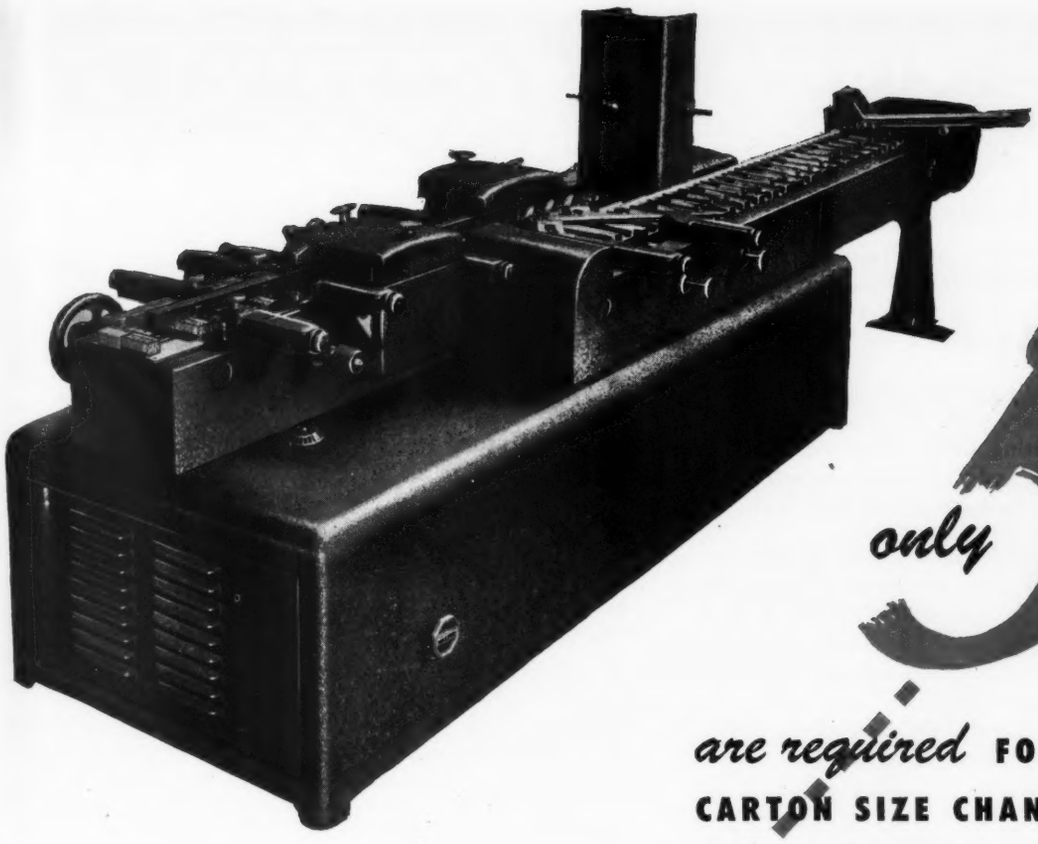
A reversible, portable belt conveyor known as Speedlift Jr. has just been announced by Speedways Conveyors, Buffalo. Elevation may be set to any height from horizontal to 6 ft. It has a power-driven feeder unit that is adjustable and reversible, as well as a gravity head delivery unit which may be used as an extension of the conveyor belt.

Another new lightweight, portable power conveyor for handling bags, boxes, cartons and a variety of packages material is the "Tote-All Packaged Material Zephyr Conveyor" produced by Material Movement Industries, Chicago.

ODOR ANALYSIS SYSTEM

The Crocker-Henderson Odor Standards, a scientific system for the classification and analysis of odor sensations, is now commercially available from Cargille Scientific, Inc., New York. This apparatus embodies the system of odor classification developed by E. C. Crocker and L. F. Henderson which has been used for more than 20 years by a firm of leading consulting chemists. Mr. Crocker's authoritative article, "Flavor Retention With Organic Packaging Materials," appeared in MODERN PACKAGING, Dec., 1945. This apparatus should prove helpful in evaluating odors in connection with effects of different packages on retaining original odors.





only 5 minutes

are required FOR A COMPLETE CARTON SIZE CHANGE-OVER ON A ROSS AUTOMATIC CARTONING MACHINE

In practically every case, the ROSS system of 'dial control' makes this quick change-over possible . . . thus eliminating old style methods of interchanging parts, necessitating prolonged down time. This ROSS feature above is worthy of consideration when you contemplate the purchasing of an automatic or semi-automatic cartoning machine.

The ROSS machine inserts your product along with advertising literature, etc., and is available for handling:

1. Straight tuck folding cartons or reverse tuck folding cartons.
2. Seal end folding cartons.
3. Top tuck, sealed bottom folding cartons.

Illustrates a few of many size and shape cartons handled by the Ross.

Additional* ROSS *features include

PRECISION PARTS	SELF OILING
DIAL CONTROLS	VERSATILE ADJUSTABILITY
MASTER SPEED RANGER	HIGH PRODUCTION

WRITE TODAY

2

A. H. Ross Co., Inc., Ludlow, Ky.

Gentlemen: Please send me without obligation, Catalog and Data on ROSS Automatic and Semi-automatic Cartoning Machines.

COMPANY_____

NAME_____

CITY_____ STATE_____

ROSS

ROCKWELL

SUBSIDIARY OF THE ROCKWELL MANUFACTURING COMPANY

A. H. ROSS Co. Inc.

PACKAGING MACHINERY · LUDLOW, KY.

Plants and People

Cameron Machine Co., Brooklyn manufacturer of slitting and roll winding machines, has begun construction of a new $400,000 factory. It is to be a two-story brick and steel building of modern design.

United Paperboard Co. has formed a foil laminating division at the company's Victory Mills, N. Y., plant. It will operate as **United Laminating Corp.** Foil will be laminated to all types of board and paper and protective and decorative coatings will be applied to board and paper.

Bardwell Bag Corp., new manufacturer of specialty printed and unprinted bags and wrappers, has been established in New Orleans, La. Specialty bags of glassine, sulphite, parchment, cellophane and Pliofilm will be made. Glassine, cellophane, wax coatings and foil will be printed and prepared in roll form to meet individual specifications. **Dewey D. Bardwell** is president of the new organization and will serve as chief sales executive. He has been associated with **Container Corp. of America, Thomas M. Royal & Co.** and **Continental Bag & Specialty Corp.** Vice president in charge of operation is **Henry D. Childers,** who was formerly with **Hummel-Ross Fibre Corp., Container Corp. of America, Thomas M. Royal & Co.** and **Wrapade Machine Co. Richard Volksdorf,** previously with **Thomas M. Royal,** is production manager.

Mr. Bardwell

Kimble Glass Co., recently acquired by **Owens-Illinois Glass Co.,** now operates as the **Kimble Glass Division** of **Owens-Illinois.** Management of **Kimble** remains unchanged, with offices still maintained at Vineland, N. J.

Owens-Illinois Glass Co. has announced two changes in the sales promotion department of its glass container division. **Northrup F. Bowes,** formerly field merchandising manager of the food container division, has been named Eastern sales promotion manager and **Newell A. Pontet** is now manager of the film and display division.

Mr. Bowes Mr. Pontet

Food Machinery Corp.'s Riverside, Calif., division has opened a direct factory branch at 48 Main St., Dubuque, Iowa. **George Z. Hoffman,** assistant sales manager and director of sales in the Middle West and East, will direct the new office.

Mr. Peterson

Dr. Martin S. Peterson has taken up his new duties as chief of the Publications Branch, **Quartermaster Food & Container Institute,** Chicago. In this capacity he will prepare technical information for civilian and military circulation. **Dr. Peterson** was formerly technical editor at the **Western Regional Research Laboratory,** Albany, Calif., and the **Nebraska Agricultural Experimental Station,** Lincoln, both divisions of the **U. S. Dept. of Agriculture.**

American Machine & Foundry Co. announces that **Herbert C. Johnson** has become sales representative for the **Rose Candy Machinery Division.** He will serve New Jersey, Pennsylvania, West Virginia, Maryland, Delaware and Virginia for the organization.

Mr. Johnson

J. E. Robinson has been named representative of **Container Equipment Corp.,** Newark, N. J., in Pennsylvania and West Virginia. Formerly he was associated with **Walter H. Burnes Co., Inc.,** Pittsburgh, food brokers. **Mr. Robinson** will maintain headquarters in Pittsburgh.

Edwin B. Fish, for 30 years director of sales for **Bemis Bro. Bag Co.** in northern Kansas, has retired. He has been succeeded by **Ralph V. Prewett,** who will be assisted by **Harvey C. Wilson. Bemis** has also announced the promotion of **E. J. Gregg** to the managership of the Seattle factory. He replaces **R. D. McAusland,** who was recently made a vice president of **Bemis.**

Mr. Gallion

J. H. Gallion, Capt., USN Retired, has established the **Gallion Export Packing Service** in the Public Cotton Warehouse, Shed G Annex, New Orleans, La. **Mr. Gallion** whose plant is equipped to recommend packing requirements and perform the packing or crating, was executive officer of the **Naval Supply Depot** at New Orleans during the war. He was with the Navy 33 years.

Western Waxed Paper Co. Division of **Crown Zellerbach Corp.,** San Francisco, has announced plans for the construction of a new plant in San Leandro, Calif. The new plant will house all wax paper operations of the company and will include a research laboratory.

George V. Clark Co., Inc., manufacturer of plastic containers, tin cans and metal stampings, is now located at 26-15 Fourth St., Astoria 2, Long Island, N. Y.

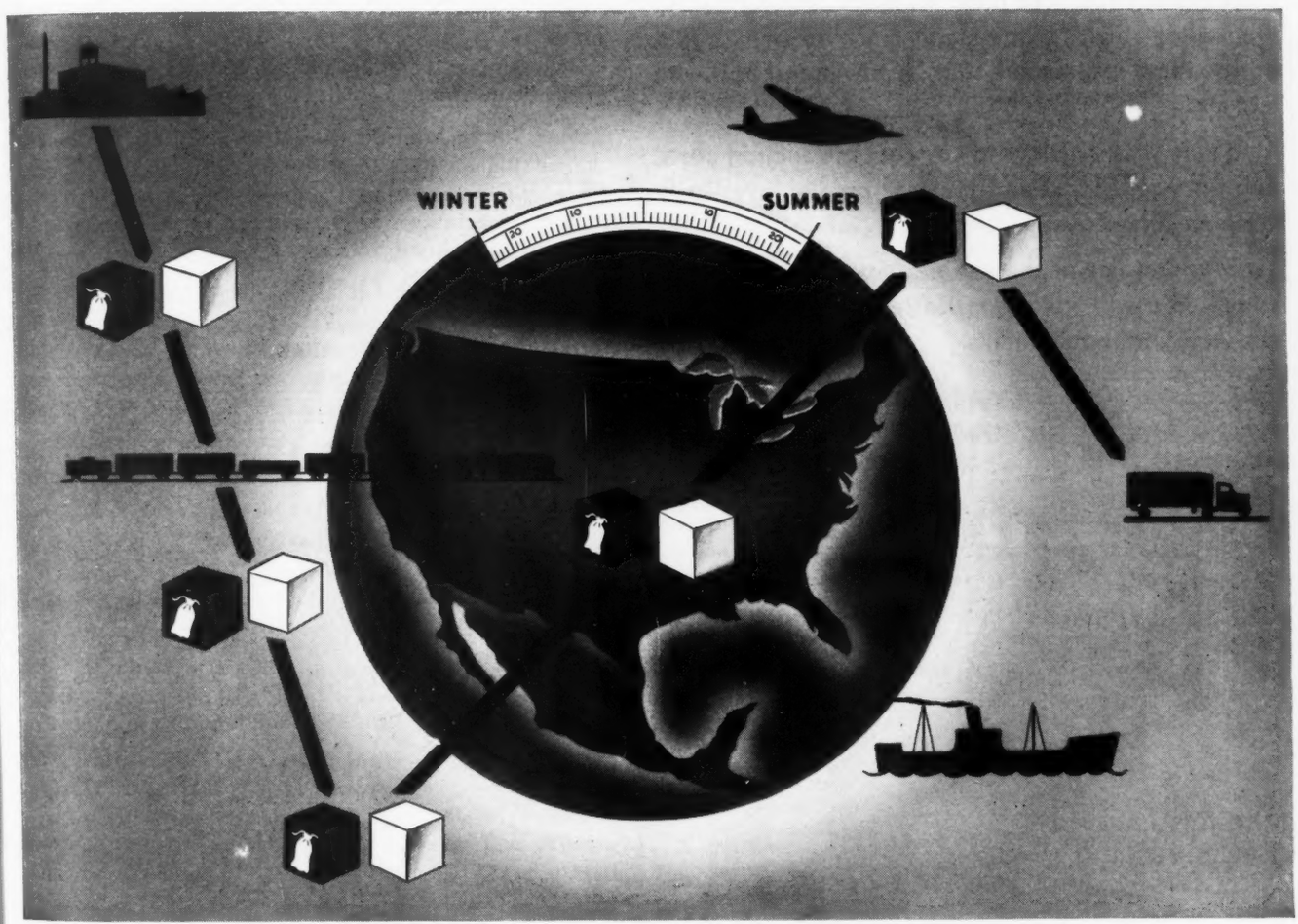
William Race was recently named president of **Sutherland Paper Co.,** Kalamazoo, Mich., in a series of changes in executive posts. **Mr. Race** has been secretary and treasurer since 1939. **Richard F. Neff, Sr.,** was named vice president in charge of sales; **A. L. Sherwood,** technical advisor, becomes vice president in charge of engineering; **E. Wendell Smith,** controller, becomes secretary; **L. W. Sutherland, Jr.,** treasurer; **Harry C. Harvey,** manager of the cost department, becomes assistant secretary and **C. W. Lawrence,** auditor, is now assistant treasurer of the company.

Mr. Race

John W. Moore has been appointed Southern district representative of **Celanese Plastics Corp.,** New York.

Monsanto Chemical Co. is now planning extension of the facilities of its Springfield, Mass., plastics division to include manufacture of polyvinyl chloride plastic. The substance, to be marketed as Polvin, will be produced in elastic films and sheets, colored and transparent rigid

A STAFF OF DAVISON EXPERTS—trained and experienced in combating moisture damage—mold, rust, corrosion and mildew—to goods in transit and storage, will be available at the Davison Booths at the two Packaging Expositions. • This will afford YOU an opportunity to discuss YOUR problems fully and obtain a solution. • Bring YOUR problems involving Moisture Damage to Davison Experts. • Visit the Davison Booths; American Management Association's Packaging Exposition, Convention Hall, Philadelphia, April 8-11, 1947. • Industrial Packaging and Materials Handling Exposition, Hotel Sherman, Chicago, Ill., April 29 and 30, May 1, 1947.



Davison Dehydrated Packaging guards your goods against ALL moisture damage from your factory to the consumer, regardless of weather conditions or time. Davison Dehydrated Packaging is adaptable to long or short term periods.

THE DAVISON CHEMICAL CORPORATION

Progress through Chemistry

BALTIMORE 3, MD.

*Reg. U. S. Pat. Off.

Canadian Exclusive Sales Agents for PROTEK-SORB silica gel* • CANADIAN INDUSTRIES LIMITED • General Chemicals Division

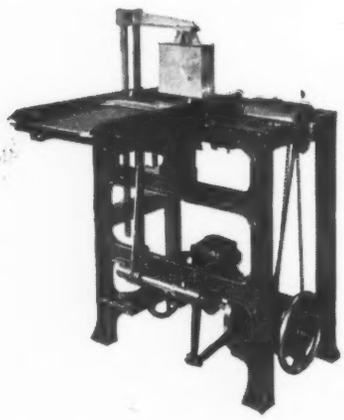
175-176 missing

CUT COSTS
SPEED WORK
SAVE LABOR
In Carton Packaging

Are you enjoying the broad cost saving advantages of PETERS economical packaging machines in your carton packaging department? Many plants are still using slow, expensive hand methods, when PETERS semi-automatic and automatic machine units could do the same job much better, at lower cost and with less labor.

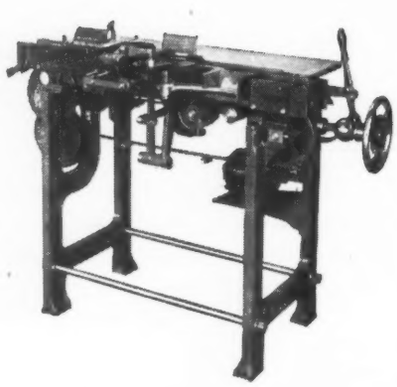
If you are seeking ways to cut your production costs, step up your output and increase profits, investigate these machines today.

Send us samples of the various cartons you are now using. We will gladly make recommendations for your specific requirements.



This PETERS JUNIOR CARTON FORMING & LINING MACHINE sets up 35–40 cartons per minute, requiring only one operator. After the cartons are set up, they drop onto a conveyor where they are carried to be filled. Machine can be made adjustable to handle several size cartons.

This PETERS JUNIOR CARTON FOLDING & CLOSING MACHINE closes 35–40 cartons per minute, requiring no operator. After cartons are filled, they enter machine on conveyor and are automatically closed. Can also be made adjustable to handle several different size cartons.



PETERS MACHINERY COMPANY
GENERAL OFFICE AND FACTORY
4700 RAVENSWOOD AVE., CHICAGO 40, ILL.

Plants and People
(Continued)

sheets; as extrusion, molding and calender compounds and as polyvinyl chloride base resins.

Lee Plastics, Philadelphia, has opened a branch office in Room 2809 of the Empire State Bldg., New York. **M. N. Teitelbaum** will be in charge.

V. F. Radcliffe is now with the Detroit sales staff of **Chase Bag Co.,** Chicago. He was formerly connected with the New York sales office. **J. B. Trigg,** previously sales representative of the Portland, Ore., branch, is now with the Dallas sales office. **Chase** has also announced the construction of a new $400,000 plant in Minneapolis.

Joseph F. Zemaitis has been named vice president and technical director of **Burlington Mills, Inc.,** Burlington, Wisc., manufacturers of felt base products.

Yale & Towne Mfg. Co. has announced plans for the erection in Philadelphia of a 16-acre, one-story factory and office building to replace the present plant at 4530 Tacony St., for the manufacture of chain and electric hoists, industrial trucks, industrial scales, etc.

The specialties division of **Finishing Products Co.,** Indianapolis, is now in operation, producing gravure inks for cellophane, Pliofilm, cellulose acetate and aluminum foils; laminating adhesives and moisture-vaporproof coatings. **E. M. Burns** directs research and development.

Shellmar Products Corp., Mount Vernon, Ohio, has negotiated a loan of $3,000,000 to provide means for company expansion and additional working capital.

The Goodyear Tire & Rubber Co., Akron, Ohio, has announced the forming of the new office of general manager of the chemical products division, to be filled by **C. P. Joslyn,** formerly sales manager for chemical products.

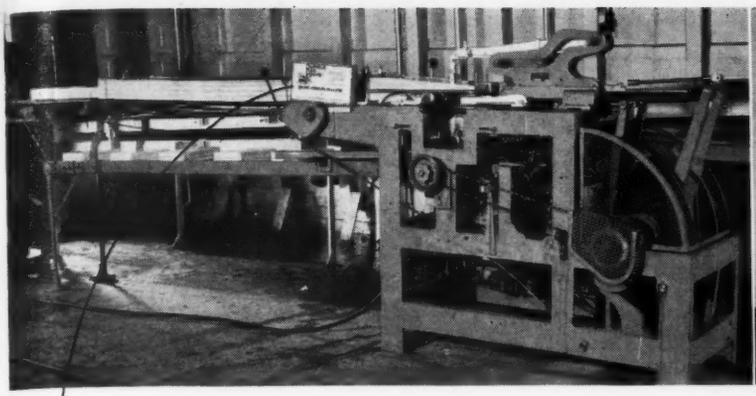
American Can Co. expects to initiate production of fibre milk containers at its Maywood, Ill., plant on May 15 and hopes soon to produce 200 million units annually.

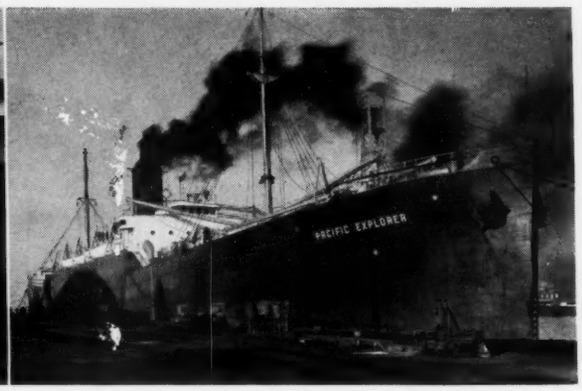
Milprint, Inc., has announced completion of its West Coast plant at Vancouver, Wash. **Charles A. Westberg** will head the plant, which will concentrate initially on the printing and waxing of glassine paper bags. Cellophane bags will later be added to the plant's products.

Walter Baermann, industrial designer, and **Marc Peter, Jr.,** architect, have recently left **Norman Bel Geddes & Co.** to form **Baermann & Peter.** Offices are at 317 E. 51 St., New York. Both men were design directors while with **Bel Geddes. Mr. Baermann's** packages have been illustrated in MODERN PACKAGING and in 1934 he won MODERN PACKAGING'S All-America Award for a stationery design for **White & Wyckoff.** The firm will be devoted to product development and packaging.

T. K. Almroth, Sr., former advertising manager at **Owens-Illinois Glass Co.** and **Shellmar Products Corp.,** has established **T. Kirk Almroth Associates** in Van Nuys, Calif. where he is associated with his son, **T. K. Almroth, Jr.,** in an industrial and package design business.

William H. Kushnick has been named vice president and general manager of **Gustave Rubner, Inc.,** New York, manufacturers of displays.





THIS HAYSSEN TRAVELS . . . WHILE IT WORKS

"PACIFIC EXPLORER" QUICK FROZEN FILLETS

IT PAYS TO WRAP THE HAYSSEN WAY

"Pacific Explorer" Quick Frozen Fillets, with the delicious flavor of freshly caught fish imprisoned in these Hayssen-wrapped cartons, add materially to the zest of dinner. Every bit of processing, freezing, packing and wrapping is done aboard ship; and when the *Pacific Explorer* is ready to dock, she delivers a cargo of tasty fillets, ready to be sent all over the country. Perhaps, you, too, could profitably use a Hayssen Carton Wrapping Machine to wrap your quick frozen products. Write the factory for full information.

HAYSSEN MFG. COMPANY, SHEBOYGAN, WIS.

HAYSSEN ELECTRONIC CONTROLLED WRAPPING MACHINES

A practical and distinctive way of heat sealing envelopes and bags. The perforated tab is made right in the seal at the same time that the machine seals the bag. Provides an easy opening that thoroughly protects the product while eliminating torn bags, broken fingernails and bad tempers (due to opening an ordinary heat seal). This feature is available with new Heat-Seal-It equipment. Write for complete information.

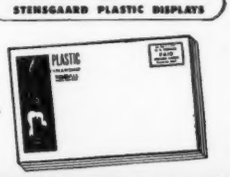
HEAT SEAL-IT CO.
LANCASTER & PARRISH STS., PHILA. 4, PA.

VISIBILITY . . . PROTECTION

COUNTER DISPLAY
FOR RCA VICTOR

Deep drawn to a depth of 9" from one piece of plastic . . . no seams . . . permitting unmarred visibility and full protection, this counter unit is another WLS SEE-ALL plastic achievement.

SEE-ALL
STENSGAARD PLASTIC DISPLAYS



In our complete, new, modern plastic department, skilled professional model makers and master craftsmen design and create displays that sell merchandise.

RATES REASONABLE

Reviewed in illustrated catalog just off the press describing new techniques and designs. Free! Send for your copy today.

America's Largest Organization Specializing in Merchandise Presentation
W. L. STENSGAARD AND ASSOCIATES, INC.
382 N. JUSTINE ST. • CHICAGO 7, ILLINOIS

3 "STAR" ADHESIVES

LABELLING GLUE

CARTON SEALING GLUE

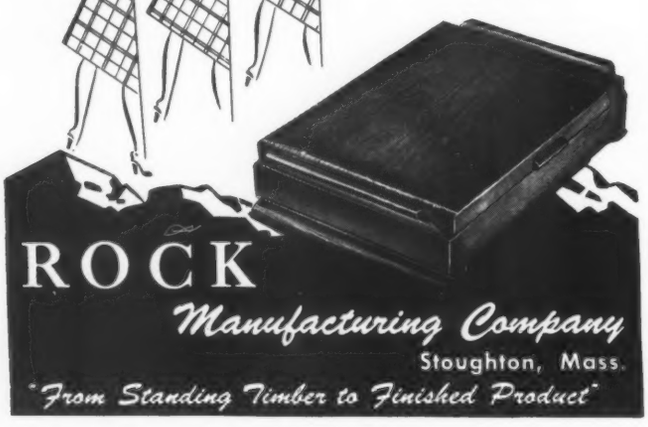
CASE SEALING GLUE

BINGHAM BROTHERS COMPANY
406 PEARL STREET • NEW YORK 7
BALTIMORE · PHILADELPHIA · ROCHESTER · NEWARK · GARWOOD

They go for your product

when it's in a wooden chest, box or display case by ROCK. Boxes by ROCK are beautifully designed, sturdily built. Specializing in the design and manufacture of silverware chests, jewelry and display cases for many years has made our name synonymous with fine wood containers.

You will find ROCK containers ideally suitable for your product.



ROCK
Manufacturing Company
Stoughton, Mass.
"From Standing Timber to Finished Product"

U.S. Patents Digest

Edited by H. A. Levey

This digest includes each month the more important patents which are of interest to those who are concerned with packaging materials. Copies of patents are available from the U. S. Patent Office, Washington, at 25 cents each in currency, money order or certified check; postage stamps are not accepted.

Filling Device with Receptacle Operated Outlet Valve, J. Sanchis, Newark, N. J. U. S. Re: 22,837, Jan. 28. A liquid dispensing device, comprising, in combination, a closure member for closing a container containing liquid to be dispensed, said closure member having formed therein an air vent and an opening into said container, below the minimum liquid level therein, a liquid-transmitting tube carried by said closure member within said opening and extending outwardly beyond said closure member and inwardly within said container.

Fibreboard Folding Box Construction, S. Conescu, Brooklyn, N. Y. U. S. 2,414,854, Jan. 28. In a folding box having hinged side and end panels which are edgewise connected to each other by a diagonally folding web arranged to lie in the set-up condition of the box against one of the panels, said last mentioned panel carrying a locking flap defined by a fold, said flap having a substantially medial portion thereof connected to said panel to leave the ends free for spreading over said web.

Sheet Feeding and Notching, C. S. Seltzer (to The Taylor-Winfield Corp., Warren, Ohio). U. S. 2,414,906, Jan. 28. Sheet notching apparatus comprising in combination a conveyor for continuously advancing successive sheets along a fixed path, a sheet notching mechanism movable means connected with said mechanism and operable to be engaged by the leading edges of the successive sheets to move said mechanism along with the sheets.

Sealing Closure, M. O. Kuhn and J. P. Sedlak, Jr. (to The Firestone Tire & Rubber Co., Akron, Ohio). U. S. 2,415,031, Jan. 28. In a sealing closure, the combination of a cap formed with female threads adapted for engagement with male threads on a member to be closed and an axial structure operatively connected to said cap and capable of rotary movement relatively thereof, said axial structure comprising a threaded stem extending through the cap and formed with a base flange at the inner end thereof.

Liquidproof Paper Container, L. C. Brooks, Madison, Wisc. (one-third to I. Milton Jones, Mequon, Wisc.). U. S. 2,415,081, Feb. 4. In a paper container flat vertical side walls, the upper edges of all of which lie in substantially a common horizontal plane; a flat top wall closing the top of the container, said flat top wall having a corner portion thereof hinged on a score line so as to be movable to an open position providing a pouring opening at said corner of the container.

Filling Machine, R. E. J. Nordquist (to American Can Co., New York, N. Y.). U. S. 2,415,109, Feb. 4. In a vacuum filling and liquid measuring machine for containers, the combination of a rotatable turret for advancing cans to be filled, a rotatable head member mounted above said turret and movable therewith, said head member having a plurality of measuring chambers leading from its periphery, means in said head member for sealing off individual cans carried by said turret, a non-rotating floating housing surrounding said head member and said chambers, vacuumizing means in said housing for vacuumizing said chambers and the cans and means in said housing for discharging a measured amount of liquid into the vacuumized can from measuring chamber.

Cigarette Package, B. J. Tamarin, Flourtown, Penna. U. S. 2,415,117, Feb. 4. A cigarette package comprising: a blank of package-forming material shaped into a shell provided with front, rear and opposite side portions enclosing a plurality of cigarettes, said blank being folded to form a top consisting of a pair of tucks extending partway across the top of the package from the opposite side portions thereof and a pair of flaps extending inwardly in overlapping relation with respect to each other, a sealing stamp disposed transversely of the flaps to seal the package top.

Sealing and Locking Closure, W. R. Kohl, Glenview, Ill. U. S. 2,415,139, Feb. 4. A combined sealing and locking closure for application to a bag having a mouth which is collapsible into a flattened edge, comprising a sealing strip of flexible sheet material which is coated on one face with a thermoplastic adhesive and is adapted to be folded longitudinally to form two integrally

SIGHT THAT DELIGHTS A FISHERMAN'S EYE

THEY'RE a real help to fishermen, these tough, transparent containers made of heavy-gauge Kodapak*.

They show lures in their true colors, exactly as they are—so that selection is quick and simple. At the same time, they give dependable protection from needle-sharp hooks —so that selection is safe.

The name "Kodapak" now designates all types and gauges of cellulose-ester sheet made by the Eastman Kodak Company. Gauges .003" and thicker formerly were called Eastman Acetate Sheet.

Current supply of Kodapak, in both thick and thin gauges, is insufficient to meet the continually increasing demand. But the Kodapak Demonstration Laboratory in Rochester is available to demonstrate fabrication methods.

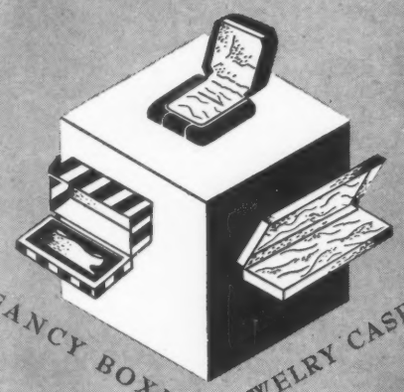
CELLULOSE PRODUCTS DIVISION
EASTMAN KODAK COMPANY, ROCHESTER 4, N. Y.

Kodapak Attracts...Protects...Sells

*T. M. Reg. U. S. Pat. Office

Kodak

Trilsch



FANCY BOXES ★ JEWELRY CASES

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U.S. Patents Digest
(Continued)

connected flaps for permanently adherent association through said coating with the opposite sides of the mouth of the bag with the line of fold arranged substantially coincident with the edge of the collapsed mouth, a rip cord attached to the adherent face of the sealing strip and a locking strip of stiff but deformable material attached to the sealing strip adjacent the edge of one of the flaps in spaced parallel relation to the line of fold.

Display Package, W. H. Taylor and L. W. Pierce and G. H. Andrews (to Crown Fastener Corp., Warren, R. I.). U. S. 2,415,151, Feb. 4. In a display package for tapes having separable slide fasteners mounted thereon comprising an elongated front panel and two elongated overlapping rear panels each of which is a folded lateral extension of the front panel and wherein said rear panels form an envelope with the front panel.

Coating Composition. D. D. Cameron (to Hercules Powder Co., Wilmington, Del.). U. S. 2,415,160, Feb. 4. A moisture resistant coating composition for paper consisting of from about 30 to 50% of a rosin derivative liquid from about 45 to 65% of a metallic rosinate, said rosinate having a melting point higher than ordinary rosin and from about 6 to 15% of a waxy substance, said percentages being based on the final constitution of the coating.

Fibre Container and Method of Making the Same, E. F. Hulbert (to Somerville Limited, London, Ontario, Canada). U. S. 2,415,173, Feb. 4. A fibrous container comprising a tubular body and an outer base piece applied to said body at one end, said body being inwardly folded adjacent to the base piece to cause portions of the wall to overlap throughout its circumference and forming a circumferentially laterally directed inwardly projecting flange engaging and overlapping marginal portions of the inner surface of said outer base piece.

Container, A. A. Richards (to Edward Lloyd, Ltd., London, England). U. S. 2,415,260, Feb. 4. A container comprising a body portion, a tapering end portion of paper material, a tube, the said end portion being composed of bonded layers of tapering strips of paper material laid lengthwise with their edges abutting and the forward narrow ends of the strips being folded back and anchored to said tube and an internal ring of paper material overlapped by and secured by adhesive to adjoining parts of said body portion and said tapering end portion.

Method of and Apparatus for Packaging of Food Products, C. M. Lamb, Jr., and V. E. Heywood (to United States Envelope Co., Springfield, Mass.). U. S. 2,415,292, Feb. 4. Apparatus for the packaging of food in containers, comprising in combination, a conveyor for supporting, at regular intervals, cartons each containing a group of loaded containers providing upstanding walls in side-by-side relation, folding stations spaced along said conveyor means for advancing said conveyor to successively present each carton with its group of containers at separate stations.

Method of Making Containers, I. L. Wilcox (to Oswego Falls Corp., Fulton, N. Y.). U. S. 2,415,323, Feb. 4. In the art of making containers, those steps including coating one side of a container blank with an impervious heat sealing plastic substance, applying a tape of similar substance along the margin of the blank adjacent one edge thereof, continuing said tape over said edge and over the marginal surface adjacent said edge on the opposite side of the blank, heat sealing said tape to the blank, shaping said blank into tubular form with the coated side and taped edge of the blank arranged inwardly with side edges overlapping, heat sealing said overlapping portions together by said tape to form a permanent body seam and securing an end closure to one end of said tubular form.

Integral Latch for Sliding Pivoted Closures, J. Kucki (to Harry Morris Associates, Chicago, Ill.). U. S. 2,415,357, Feb. 4. In an article of manufacture of a container having a base and a cover thereof, said cover having hingedly connecting means with said base enabling a horizontal and vertical movement thereof; locking means for locking said cover on the side of said cover, spring means mounted on the base and contiguous to cover.

Packaging Hygroscopic Materials, W. H. Graebner and R. C. Flom (to Marathon Corp. of Wisconsin). U. S. 2,415,387, Feb. 4. A package of hygroscopic material comprising a container wall formed of laminated sheets, the innermost sheet adjacent the packaged hygroscopic material containing a plasticizer and a continuous thermoplastic barrier film comprising microcrystalline wax and of about 20% of the weight per ream of the combined sheet on the face of said sheet presented on the interior of the package adjacent said hygroscopic material to prevent

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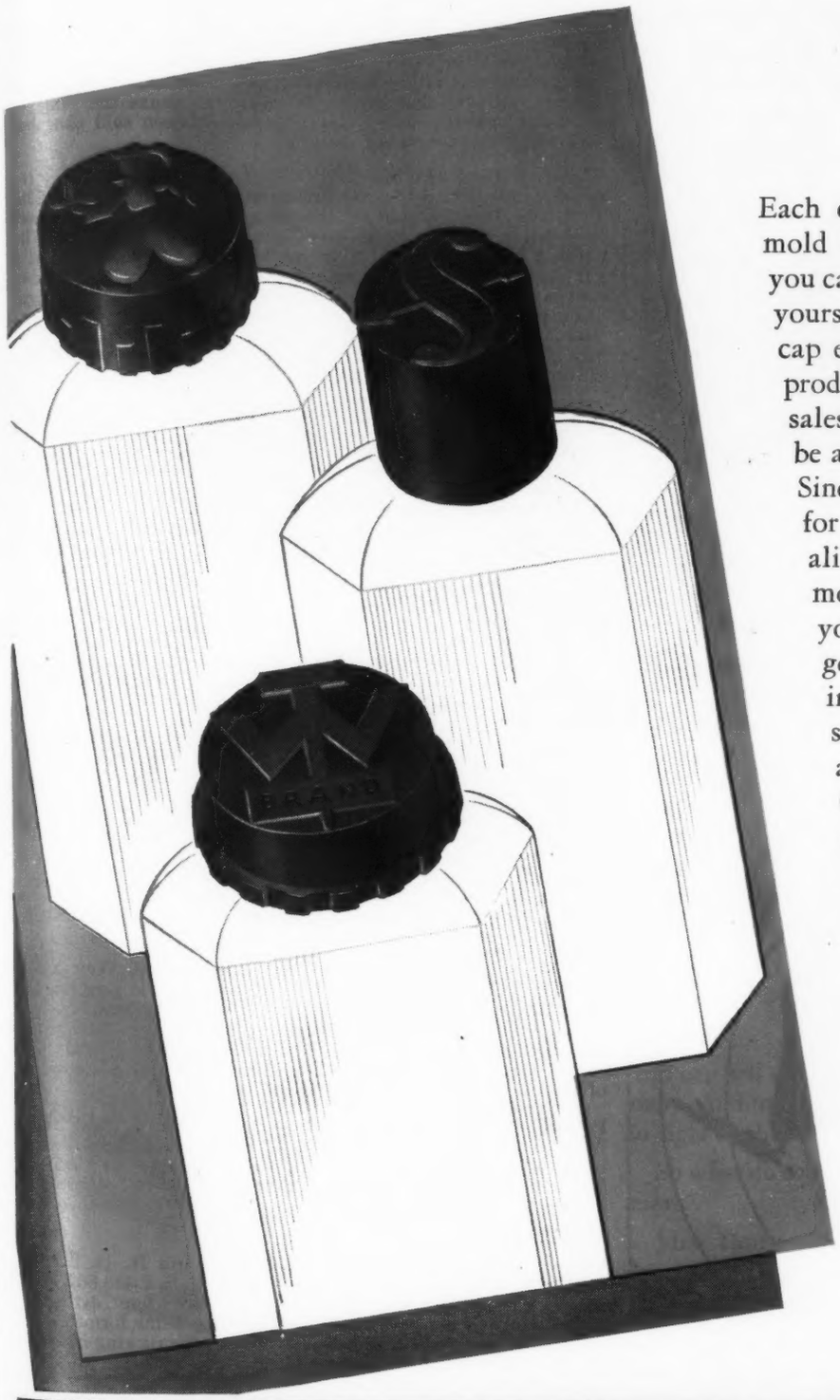

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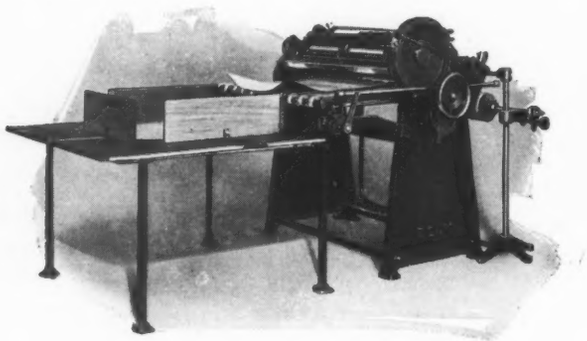

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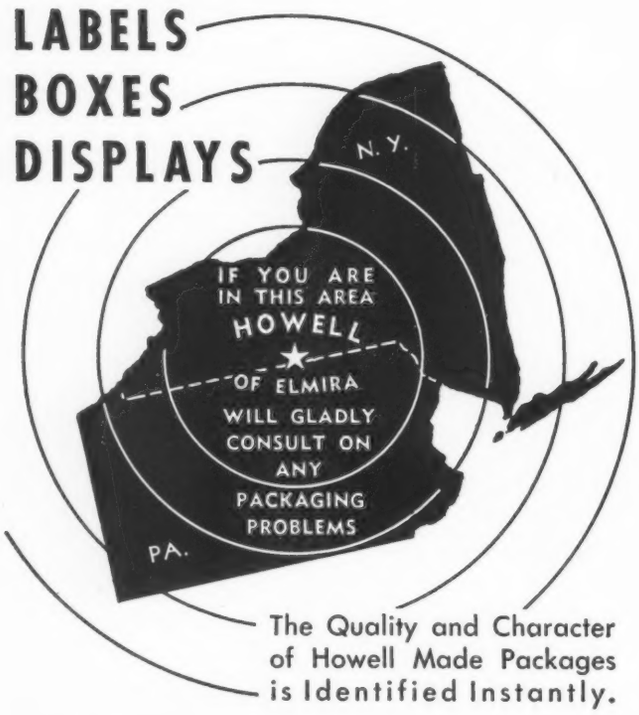

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substantial withdrawal or loss of said plasticizer and embrittlement of said innermost sheet.

Method and Apparatus for Vacuumizing Containers, S. Birkland (to American Can Co., New York, N. Y.). U. S. 2,415,409, Feb. 11. In a machine for vacuumizing and sealing containers, the combination of a sealing chamber for confining a container to be vacuumized, two source of vacuum communicably connected with said chamber for simultaneously drawing a vacuum on said chamber to partially vacuumize the same, a normally open pressure valve disposed between said chamber and one of said sources of vacuum.

Carton Filling Machine, D. D. Peebles and B. P. Hensley (to Golden State Co., Ltd., San Francisco, Calif.). U. S. 2,415,528, Feb. 11. In apparatus for the filling of cartons or containers with powder, a holding device adapted to receive a carton to be filled, a member adapted to be rotated upon a vertical axis at a pre-determined speed, an arm pivotally attached to said member and extending radially from the same, the outer end of said arm being fixed to said holding device, tracking means serving to carry said supporting device as the same moves in a circular path, a filling zone with means for supplying a stream of powder to the carton being carried by hold device.

Container, H. Sebell (to Bell Products Corp., Boston, Mass.). U. S. 2,415,609, Feb. 11. A container comprising a container body having an open top and provided with an exterior bead at its top edge and also provided with an exterior downwardly facing shoulder below said bead, the exterior diameter of the container body immediately above the downwardly facing shoulder being slightly greater than at exterior bead and a closure for said open top which comprises both a cap member and a band member.

Method of Making Containers, J. L. Coker, III (to Sonoco Products Co., Hartsville, S. C.). U. S. 2,415,625, Feb. 11. The method of fabricating a rigid self-supporting paper container which comprises forming a frusto-conical open-ended tubular body, attaching to the inner surface at the small end thereof, a closure for that end and thereafter shaping said small end and imparting a permanently altered form thereto by applying external forces.

Paper Box Construction, S. R. Arner (to Old Dominion Box Co., Lynchburg, Va.). U. S. 2,415,721, Feb. 11. A circular paper box having inner and outer side walls secured to each other, a circular bottom fitting snugly within the lower end of the inner side wall, a sheet of paper adhesively secured to the lower surface of the bottom member and having its outer edge folded up and secured between the inner and outer side walls of the container, the adhesive on the additional bottom member being in the form of a plurality of concentric rings with radially disposed strips of adhesive extending between the rings.

Printing Ink, E. D. Lee (to Interchemical Corp., New York, N. Y.). U. S. 2,415,827, Feb. 18. A typographic printing ink characterized by its ability to be set by the application of water to the film which comprises pigment dispersed in the vehicle the major binder component of which is beta naphthol pitch, dissolved in the liquid water-soluble solvent of the group consisting of polyglycols and polyglycols monoethers.

Printing Inks, E. D. Lee (to Interchemical Corp., New York, N. Y.). U. S. 2,415,828, Feb. 18. A printing ink characterized by its ability to be set by the application of water to a printed film which comprises pigment dispersed in a vehicle the major binder component of which is beta naphthol pitch dissolved in propylene glycol.

Valved Bag and Method of Manufacturing It, D. Belcher (to Bemis Bro. Bag Co., St. Louis, Mo.). U. S. 2,415,862, Feb. 18. In a valved bag, tucked in valve flap extending inwardly into the mouth of the bag, said flap being formed from a portion of said mouth, said mouth prior to the tucking-in of the flap lying uniformly in a plane at right angles to the length of the bag, said flap being formed by folding inwardly a portion of the adjacent bag wall.

Container for Aseptic Filling and Dispensing of Sterile Liquids, C. M. De Woody (to Ace Glass, Inc., Vineland, N. J.). U. S. 2,415,871, Feb. 18. A receptacle having a top provided with a central opening and an off-center opening, a neck extending upwardly from the top and provided with a screw thread, a cap having threaded engagement with said screw thread and provided with a base flange extending over said off-center opening, said

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flange having an opening designed to register with said off-center opening when the cap is in a predetermined position, a washer arranged between said flange and the top of the receptacle, a plug normally closing said off-center opening and adapted to be held in closed position by the washer and flange, a tubular member connected to the cap and extending into the bottle neck, a closure for the central opening including a stopper carried by tubular member and a vent or delivery tube secured to closure and extending downwardly into receptacle.

Carton, C. J. Coleman (to Container Corp. of America, Chicago, Ill.). U. S. 2,415,869, Feb. 11. In a seal end carton an inner sealing flap connected to the body of the carton by a curved score line bulging outwardly intermediate its ends and an outer sealing flap connected to the body of the carton adapted to be sealed to the outwardly bulged inner sealing flap.

Head Construction for Collapsible Tubes, R. E. Paige, New York, N. Y. U. S. 2,415,906, Feb. 18. In a collapsible tube, a tube body, a rigid head member having an annular flange extending into said tube body, an annular exterior shoulder provided at the outer end of the flange and extending beyond the exterior circumferential plane of the side wall and an outwardly facing bevel provided on the free inner end of flange, an inner ring of plastic interposed between flange and inner wall of tube body and extending inwardly beyond the bevelled end of flange and secured to adjacent surfaces by adhesion thereto.

Pressure Sensitive Adhesive Tape, W. L. Nelson and W. N. Morris (to Johnson & Johnson, a corporation of New Jersey). U. S. 2,415,901, Feb. 18. In an adhesive tape a pressure sensitive mass comprising an elastomeric base consisting of polyvinyl normal butyl ether from about 62% to about 85% and factice from about 38% to about 15%.

Packaging Machine, J. G. Vergobbi (to Pneumatic Scale Corp., Ltd., Quincy, Mass.). U. S. 2,415,978, Feb. 18. In a packaging machine means for forming a fluid tight closure for the mouth of a bag comprising means for supporting the bag, means for forming an elongated closure in said mouth, including a pair of spreader blades, means for lowering the blades into the open mouth of the bag, means for moving the blades apart laterally to cause opposed walls of the mouth of the bag to be brought together, means for grasping the ends of elongated closure and stretching same to provide a substantially wrinkle-free contact between the opposed walls of the closure and means for sealing the closure while it is maintained in its stretched condition.

Can Filling Apparatus, J. Albertoli, San Francisco, Calif. U. S. 2,416,039, Feb. 18. In a can filling apparatus, guide means for guiding rows of standing cans for filling, a chain extending along the guide means and upon which the cans stand while being filled and means for moving said chain relative to the cans for jiggling the cans to settle their contents and also carry cans bodily along guide means.

Bottle Capping Head, E. W. Goodwin (to American Seal-Kap Corp., Wilmington, Del.). U. S. 2,416,001, Feb. 18. A capping head for affixing onto a bottle a hood cap having a central diaphragm, a top wall and a flared marginal skirt to be folded around the outer surface of the bottle neck, comprising a housing, a plunger carried in said housing and spring pressed downwardly for engagement with the top wall of said cap.

Adjustable Lined Container Having Interchangeable Screw-Threaded Sections, T. F. Bennett (to Hercules Powder Co., Wilmington, Del.). U. S. 2,416,142, Feb. 18. An adjustable container having a plurality of interconnected liner elements and sleeve elements, the liner elements and the sleeve elements being tubular of substantially the same length, a thread exteriorly disposed on each of said liner elements and extending spirally throughout the length thereof, a thread interiorly disposed on each of said sleeve elements and extending spirally through the length thereof, the liner elements and the sleeve elements being movable in threaded relationship with each other.

Apparatus for Lining Caps, J. Belada (to Owens-Illinois Glass Co., a corporation of Ohio). U. S. 2,416,249, Feb. 18. A pipette comprising a tubular stem, a head attached to said stem and having a bore extending therethrough in line with the stem, a traveling chain conveyor, a supporting block attached to and carried with the conveyor and in which said head is mounted, a container for a pool of liquid material in position for the pipette to move through the pool as it travels with the conveyor.

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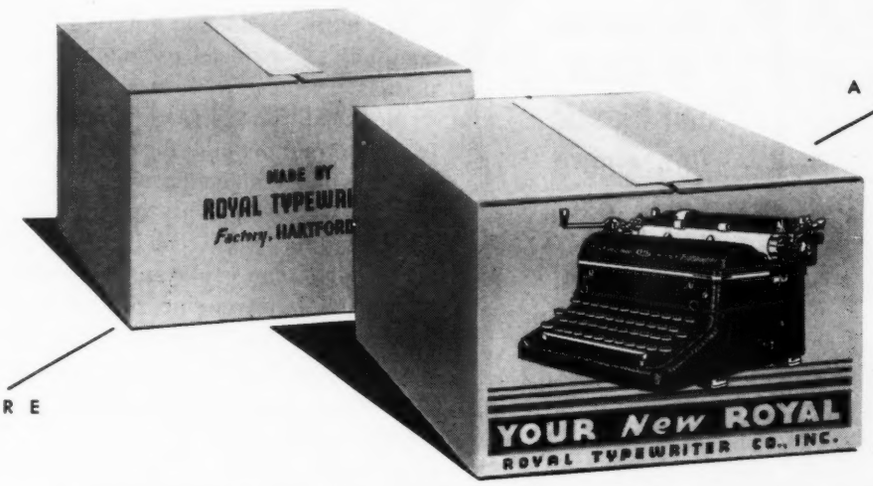

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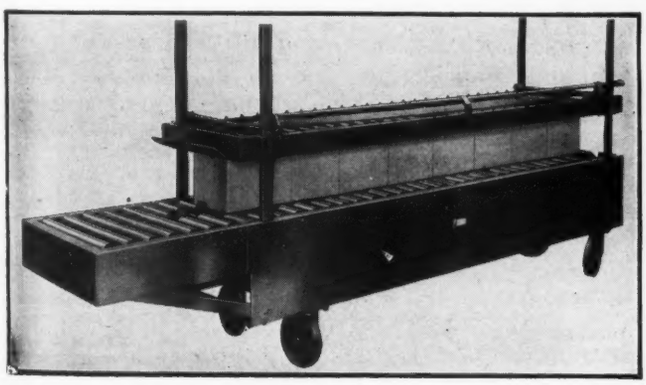

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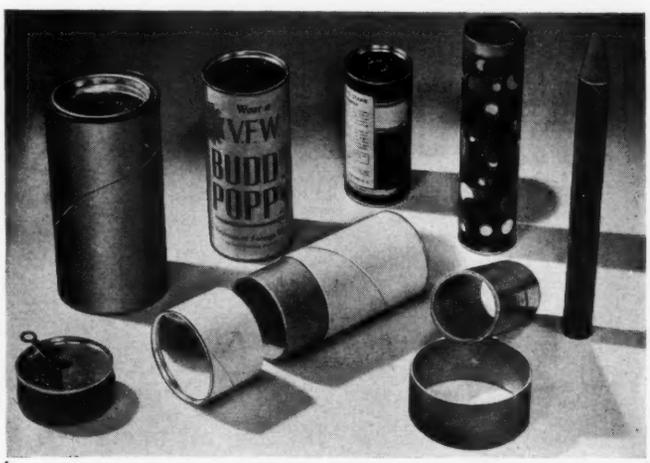

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Engine parts

(*Continued from page 129*) long and less than 1/2 in. in diameter. The precision of these parts and the protection required are indicated by the fact that in the spray tip there are six 0.006-in. holes through which the fuel is sprayed into the cylinder for combustion.

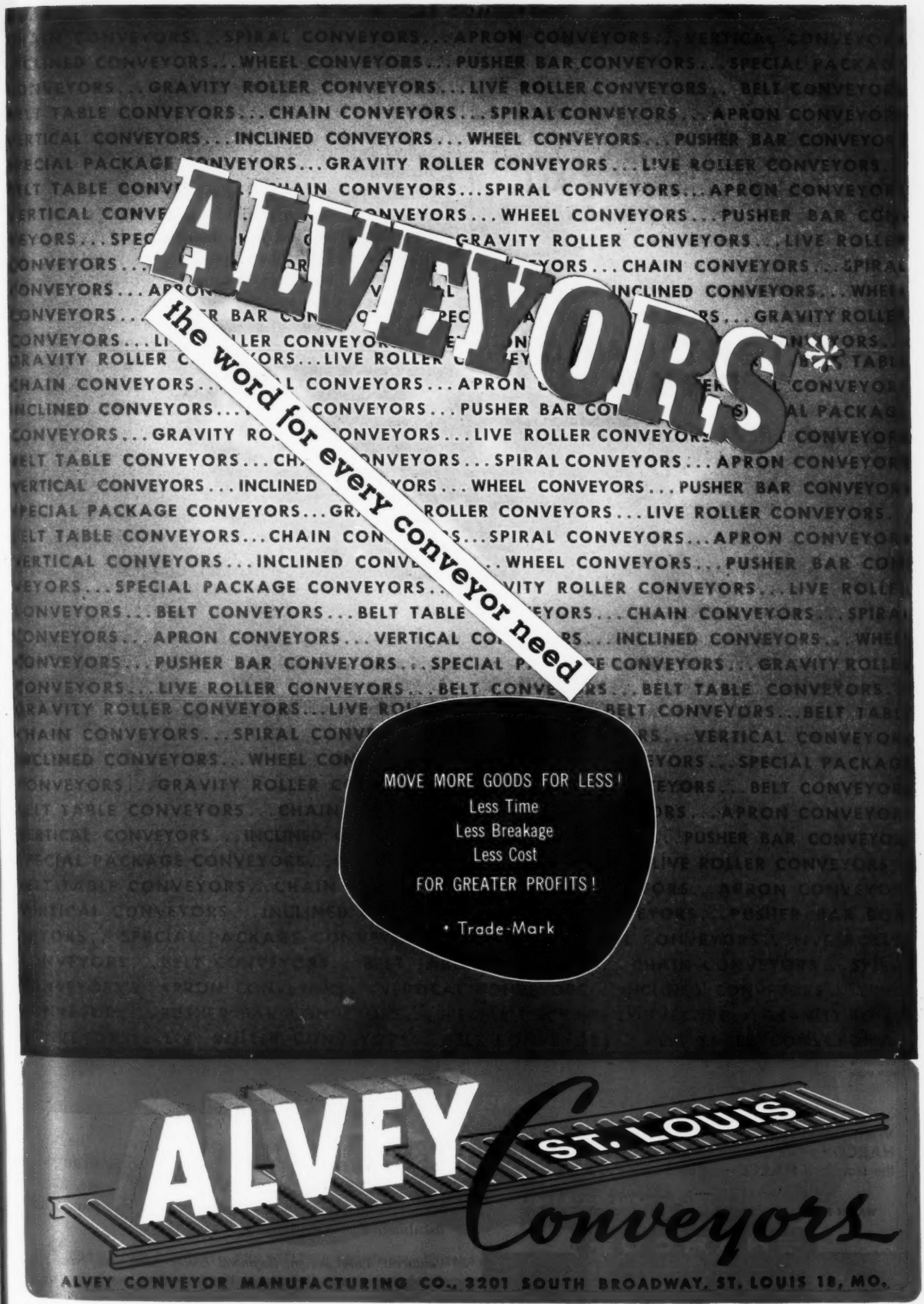
The entire packaging program ties in closely with the company's "balanced parts stock plan." Briefly, this plan is designed to insure that the parts distributor carries at all times a stock which is balanced in relation to the normal demand for different kinds of parts. On fast-moving items such as gasket sets or piston rings, larger reserve stocks are required than on parts which seldom require replacement. Basic index of the balanced parts plan is a system of coding all engine parts by location in the engine, similar to the Dewey Decimal System used for libraries. The bin or storage-shelf arrangement used by the distributor follows this code for ready selection of the desired parts and the part number designation on each package tells the distributor where it should go in his stockroom.

Detroit Diesel's organization for packaging provides representation for all interested departments, but is streamlined for action. The company's packaging committee includes representatives from the parts merchandising department, package engineering, warehouse supervision, material control and supplies procurement. The entire packaging program is under the general supervision of the parts merchandising department, headed by Donald Sawyer, parts merchandising manager. The general parts manager is J. Ball.

The company's complete parts list entails approximately 10,000 parts numbers. At the present time about 200 items are being packaged under the unified program, with the most competitive items and those requiring special protection getting first attention. Expansion of the program is still limited to some extent by the availability of packaging materials.

The program is grounded upon a comprehensive set of packing and shipping material specifications developed by the package engineering department under the direction of R. A. O'Reilly, Jr. These specs cover such points as the name and number of the specific package (e.g., No. 5P206, yellow lined kraft carton), the size, style, stock and details of printing. Samples of all packages must be submitted to package engineering for approval before proceeding with manufacture. The specifications also call for delivery of the packaging materials "in suitable packages...each package to be of like count, marked, identified and all subsequent deliveries to be the same."

All pertinent information on packages required is made available to the purchasing department through the specifications. Also, the package engineering department, by cooperating closely with purchasing, relieves the latter department of involved details relating to technical questions on materials, etc. As new packaging specs are evolved by the packaging committee,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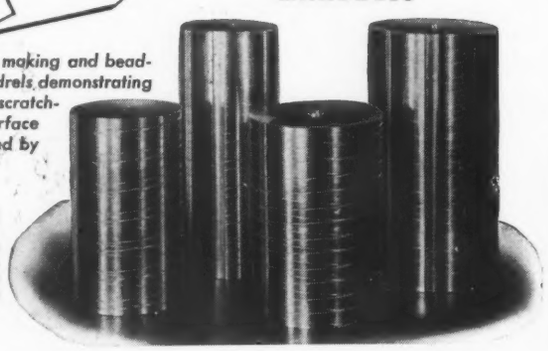

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they are passed on to the purchasing department.

It is up to supplies procurement to see that the necessary packaging materials are on hand when needed and to insure that the proper packages are used for specific parts. This department also takes care of the multigraphing of packages as needed and maintains a proper balance between parts production and package inventories.

Mr. Sawyer reports that despite the newness of the packaging program, many favorable reactions have already been received from distributors and customers. The kits, in particular, have been welcomed as a real help to both the distributor and the ultimate purchaser; the company has enjoyed its greatest increase in piston ring sales since placing them in the handy packages.

Detroit Diesel is merchandising the packaging program to its distributors, pointing out in illustrated literature that the new line of packages affords distinction and protection for its "Factory Engineered Parts" and makes the items easier to handle, to stock and to sell.

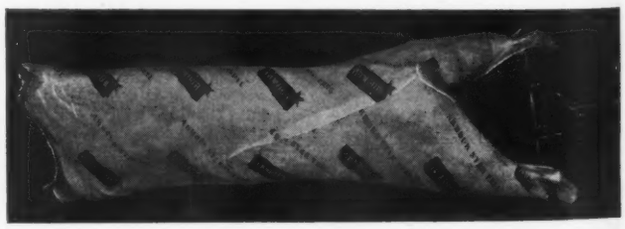
"Modern packages," the company points out, "contribute identification, protection, convenience, economy and display value in merchandising parts." It would be difficult to put the matter more clearly or truthfully.

CREDITS: *Fibre cans by Sefton Fibre Can Co., St. Louis. Folding paper boxes by Wayne Paper Box & Printing Corp., Fort Wayne, Ind., and Wolverine Carton Co., Grand Rapids, Mich. Paper envelopes by Wolf Detroit Envelope Co., Detroit. Parchment envelopes by Cupples-Hesse Corp., St. Louis. Plastic vials by Celluplastic Corp., Newark, N. J. Corrugated boxes by Hinde & Dauch Paper Co., Sandusky, Ohio. Labels by Calvert Lithographing Co., Detroit, and Lincoln Printing Co., Detroit. Decalcomanias by Vitachrome, Inc., Los Angeles. Inks by Howard Flint Ink Co., Detroit.*

Parchment and stockinette

Double protection and ready identification for veal carcasses, sides, hind quarters and hind saddles are provided in this new wrap announced by Armour & Co.

It consists of a 35-lb. basis weight special opaque parchment wrap, crinkled and waxed on two sides, overwrapped with open-mesh cotton stockinette. The



parchment wrap, with scatter design, features the newly adopted Armour logotype in maroon, with a tangerine red star at upper right corner. Product name, also in red, effectively contrasts with the white paper and establishes brand identity.

CREDITS: *Label design, Raymond Loewy Associates, New York. Parchment wrap, Kalamazoo Vegetable Parchment Co., Kalamazoo, Mich.*

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IPEAA Exposition

Final arrangements for the second annual Industrial Packaging and Materials Handling Exposition, produced by the Industrial Packaging Engineers Assn. of America, have been announced. Forums and exposition will be held at the Hotel Sherman, Chicago, from April 29 through May 1. As MODERN PACKAGING goes to press, 64 exhibitors have taken booths for the show.

Highlighting the program will be a special panel on "Loss and Damage Prevention," sponsored jointly by IPEAA, the Midwest Shippers Advisory Board, the Chicago Assn. of Commerce and Industry, the Traffic Club of Chicago, the Junior Traffic Club of Chicago, the Freight Claim Division of the Assn. of American Railroads, American Trucking Assn. and Railway Express Agency. Program chairman for the meeting, to be held on the afternoon of May 1, is A. L. Green, Freight Claim Division, Assn. of American Railroads. A. H. Schwietert, traffic director, Chicago Assn. of Commerce and Industry, will be master of ceremonies and R. J. Bayer, editor, *Traffic World*, serves as script author and director. Participating in the forum are Kinsey N. Merritt, vice president for traffic, Railway Express Agency, Inc.; Warren R. White, container engineer, Union Pacific Railway; Carl F. Jackson, director of traffic, American Trucking Assn., Inc.; J. G. Witte, manager, Merchandise Preparation Dept., Montgomery Ward & Co., and J. Lebl, chief packaging engineer, Sears, Roebuck & Co.

An address by Ralph Budd, president, Burlington Lines, is another feature of the meeting. He will speak on "Scientific Product Protection and Materials Handling—a New Factor in Transportation and Distribution Economics." The talk is scheduled for April 30 at the exposition dinner and announcement of prizes in the IPEAA protective packaging contest. James D. Arrington, Mayor of Collins, Miss., is also on the program and will address the gathering on "Defrosting Your Frozen Assets." R. F. Weber will preside over this session and I. J. Stoller will formally award prizes for the competition.

Also on April 30 will be a panel discussion on "Principles of Protective Packaging for General Merchandise Distribution." R. E. Farney, Spiegel, Inc., will be chairman of the meeting and among the participants will be J. L. Ware, Sears, Roebuck & Co.; J. P. Corcoran, Aldens, Inc., and W. W. Lavery, Spiegel, Inc. Discussion will center around protective packaging principles as applied to various types of consumer goods. Sample packages will be used to illustrate the several principles. Packaging for furniture, appliances, glassware, lighting equipment, hardware and machinery products will be specifically discussed.

Full details of the program and attendance procedure may be obtained from C. J. Carney, Jr., managing director of the exposition, Industrial Packaging Engineers Assn., 20 West Jackson Blvd., Suite 705, Chicago 4.

Protective packaging for pharmaceuticals and drugs not only protects the product itself — but the valued name of the maker as well. Protecting the name of the maker is a matter of correct package design — the **right** combination to guarantee repeat sales — and **new** sales — to extend market position.

Such is packaging at Warnercraft . . . where Warnercraftsmen — backed by experience, facilities, and research — take a product and design a container that FITS — and continues to FIT — for sales in a competitive market.

Investigate Warnercraft for better pharmaceutical and drug packaging today!

WARNERCRAFT

"THE FINEST WORD IN PACKAGING"

THE WARNER BROTHERS COMPANY

Makers of set-up and folding boxes of all types, transparent acetate containers, hand made specialties, counter displays and dispensers.
Main Office and Factory: 325 Lafayette Street, Bridgeport 1, Conn. • New York Sales Office: 200 Madison Avenue, New York 16, N. Y.

The Package that passed 167 Tests!

"Miss Container" was scientifically built by our designers and craftsmen . . . she, and all her brother and sister packages made by Cambridge, are checked as many as 167 ways before production begins.

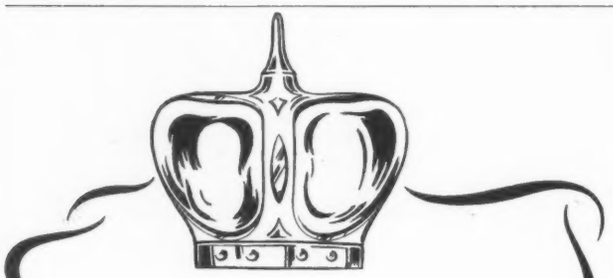
If *you* have a packaging problem . . . remember this . . . *we* have 50 years' experience, and a specially trained staff of packaging engineers who will be glad to talk to you about your particular requirements.

CAMBRIDGE Containers

CAMBRIDGE PAPER BOX COMPANY

PROVIDENCE CAMBRIDGE, MASSACHUSETTS NEW YORK

RECTANGULAR AND ROUND BOXES • PLASTICS • LABELS AND ALLIED PRODUCTS



PLATING

A finish on plastic fit for a King!

Plastic closures transformed into glistening gold and silver jewels to make your package outstanding.

Send samples of your closures to us for recommendations and estimates.

...Yes, we plate bottles too...

FRANK J. SUTPHEN

• • • CENTRAL 3242 • • •

185 N. WABASH AVE. • CHICAGO 1, ILL.

20th century heraldry

(*Continued from page 110*) and secure a coherent, integrated point-of-sale program which would prove effective for the company.

All during this operation the general sales department at Meadow Gold was consulted to assist in the practical handling of the display from the salesmen's viewpoint. To merchandise the program effectively to our sales staff—and through them to our dealer outlets—a salesmen's portfolio was designed by the display organization. This portfolio carries illustrations of the new display pieces, gives suggested illustrations of the new display pieces, gives suggested uses for interior and exterior displays and shows how Meadow Gold's new point-of-sale program stemmed from the basic design character. In addition, a portfolio of newspaper electrotypes and matrices was prepared from which individual plants could select material for local advertising. This makes it possible to meet all local situations but still maintain a uniformity of design.

It is also interesting to note, in the chronology of events, that the company name was changed in April of 1946 from Beatrice Creamery Co. to Beatrice Foods Co. This change typified the results of expansion in the food business generally over a number of years and was evidence of the fact that a new program was becoming increasingly necessary.

To make known our over-all philosophy to each of our key men and to gain their full support, a series of discussion meetings are planned throughout the country at which all managers and salesmen were present. All material was displayed and the logic of our over-all program set before them. In this manner they, too, became imbued with the purpose and quality of our material.

In a few weeks the units in our program will be installed at our dealer outlets. Because we now have a unified point-of-sale operation, we are confident that this program will help us achieve three important results: (1) good reception on the part of our dealers; (2) increased sales; (3) excellent support to our bid for top position in the dairy products field.

Much effort has been expended in the development of this over-all program, but with the format established we now have a well-delineated pattern and character which will be dominant in the public mind and an important part of practically every piece of advertising that bears the name of our company or product for some time to come.

CREDITS: *Point-of-sale program, basic design, merchandising plan and durable display material by Kay, Inc., New York. Decalcomanias by The Meyercord Co., Chicago. Package design adaptations by Harper Richards, Chicago. Cartons by Chicago Carton Co., Chicago, and Marathon Corp., Menasha, Wisc. Metal foil wraps by Reynolds Metals Co., Richmond, Va. Parchment by Paterson Parchment Paper Co., Bristol, Penna. Butter-wrapping machine by Lynch Package Machinery Corp., Toledo, Ohio.*

Memo

to men who demand reliability

in packers' adhesives . . . .

packaging division
Dewey and Almy
Chemical Company

CAMBRIDGE 40, MASSACHUSETTS

WATLOW ELECTRIC HEATING UNITS

Engineered to fit for top efficiency

UNIFORM CONTROLLED HEATING

CURVED, FLAT and CYLINDRICAL SHAPES

The PRECISE FIT of Watlow Heating Units insures against bothersome burnouts that disrupt production. Accurate forming and precision sheathing provides minimum insulation—shorter direct heat conduction for greater efficiency.

Send for Catalog

Watlow Units are available in standard and special shapes of diameters, widths and capacities to fit the many types of heated production devices.

SPECIALISTS IN ELECTRIC HEATING UNITS

WATLOW
ELECTRIC MANUFACTURING COMPANY
1340 N. 23d St. St. Louis 6, Mo.

another "SHOPPER STOPPER" *by Braun*

Elegance and a note of the bizarre! Braun's Oblong Crystal Perfume bottle (a stock design available in several sizes) and striking packaging are deftly blended by Sardeau.

W. BRAUN CO.
316 N. CANAL ST. • CHICAGO 6, ILL.
347 FIFTH AVE. • NEW YORK 16, N. Y.

Premiums

(*Continued from page 94*) packages you expect to sell within a given period and then figure what the cost of printing premium information on the package will be. Sometimes printing costs are allocated to advertising.

Each promotion a special study

Types of premiums and the method of distributing them are wide and varied, but each successful promotion demands its own particular study. The problem may be to introduce a new product. It may be to create brand acceptance in a particular territory, to hold a market in a certain area or to fight stiff competition. General Mills in combination with the Pet Milk Co., for example, have a special coupon redemption plan for the State of Florida alone. Because of the pecularities of the Florida market and to hold their position, these two companies offer special packages for the Florida market with coupon offers redeemable only through 26 Golden Key Gift Shops, operated in leading Florida communities. These stores are maintained solely for the redemption of coupons on seven General Mills products and on cans of Golden Key milk—Golden Key being the Pet company's product which is promoted through premium merchandising in Florida.

Occasionally a company will make an especially generous offer for the purchase at one time of several packages of a given product. A maker of dessert powders did this a while ago, offering a set of jelly molds, with six packages of its product. The sales strategy was to sell housewives enough of this company's brand to keep out a competitor who was trying to gain a stronger foothold. Ordinarily women do not buy that much dessert powder at once, but this company believed that the premium encouraging a six-package purchase would load up household shelves so that a newcomer would find it tough to make additional sales.

There are hundreds of companies which employ premiums as part of a long-range proposition. The Quaker Oats Co. is one of these; its premium package of Mother's Oats containing a piece of china or aluminumware right in the package has been an outstanding promotion in rural areas for years and sometimes reaches more than 100 carloads of china in one year.

Premiums for small business

Premium usage can be economically sound for small business or large. One company which puts out one product—canned sauerkraut—uses no other advertising than a silverware offer on its label—one spoon for one label and a coin. Since the housewife is desirous of obtaining a set, she will look for this brand of sauerkraut when she makes her next purchase. In the Middle West, a small cleanser manufacturer has increased the sale of his product 500% since adopting a premium of silverware offered on the package.

General Coffee Co., a division of General Grocery Co., reports that a radio and newspaper promotion of the Coffee Assn.'s standard measuring spoon as a

In labeling...it's better to make haste slowly

Haste makes waste—breakage and jamming—when bottles are rushed through a labeling machine at high speed to meet production schedules.

But the Ermold Automatic makes haste slowly. At a leisurely rate of only 20 cycles per minute, it can label up to 12,000 bottles per hour.

The secret is the Ermold Multiple Method. Instead of one at a time at high speed, the Ermold labels 4, 6, 8 or 10 bottles at a time . . . slowly and safely. This means minimum breakage and less machine jamming . . . less wear and repair . . . fewer delays.

Add to this a constant top-quality labeling job . . . body, neck and foil, even the date on the label if you want . . . and you have the reasons why Ermolds are top choice in most bottling plants.

For high quality labeling to please the sales manager . . . for high rate of production to please the bottling plant supervisor . . . for low cost per bottle to please the cost accountant . . . buy Ermold.

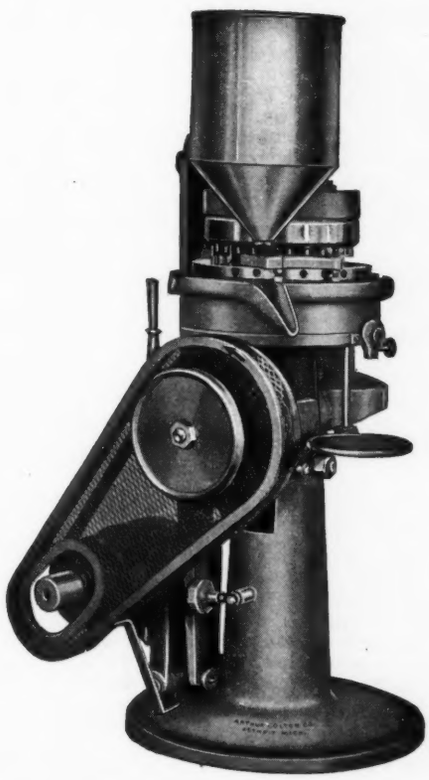
EDWARD ERMOLD COMPANY • 652 Hudson St., New York 14, N.Y.

ERMOLD
LABELERS
66 Years of Labeling Leadership

NEW
ROTARY TABLET PRESS

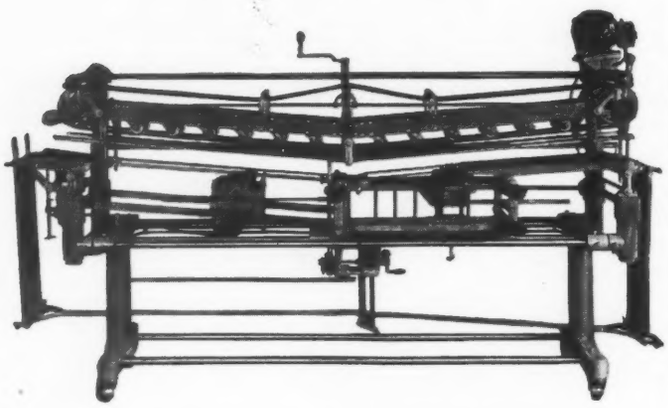
New series 200–25 tablet machine embodies years of experience in building equipment, incorporates refinements giving an entirely new standard of performance.

Special features include new variable lower punch pull-down track plus micrometer cell adjustment minimizing punch and die wear and practically eliminating capping; solid steel tie bar; centrally located main drive shaft; lower center of gravity. Range of operating speeds is provided by built-in variable speed drive. Power transmitted through lever operated disk clutch. Special drive materially reduces power consumption. Standard speed motor. Capacity per minute: 300–800 tablets. Diameter of tablet 3/16″ to 5/8″, maximum depth of cell: 11/16″. Floor space: 30″ X 36″, height: 60″, net weight: 1025 lbs.



ARTHUR COLTON COMPANY
2602 E. JEFFERSON AVE., DETROIT 7, MICHIGAN

New Way Labelers will do the job



For Tins, Glass Jars or Cans With Bale Ears

THE BEST OF Everything IN LABELING AND CASING EQUIPMENT

Chisholm-Ryder

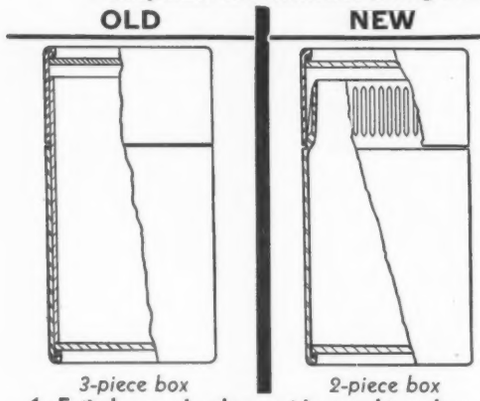
COMPANY OF PENNSYLVANIA

HANOVER, PENNSYLVANIA

Something NEW

IN ROUND BOXES

→ Tapered construction makes sure seal
→ Cap fits tightly without danger of falling off
→ Adaptable to automatic filling and closing



*Crimped portion tapered to form tight seal. Nothing like it on the market.**

1. Entirely new development in round type box.
2. Two piece construction reduces cost per box.
3. Sturdy, practical, already being used on variety of products.
4. Any exterior design and colors desired.
5. A call will bring our representative to discuss your problem.

NIEMAND BROS. Inc.

37-01 35th Avenue RAvenswood 8-0909 Long Island City 1, N. Y.

* Patent Applied

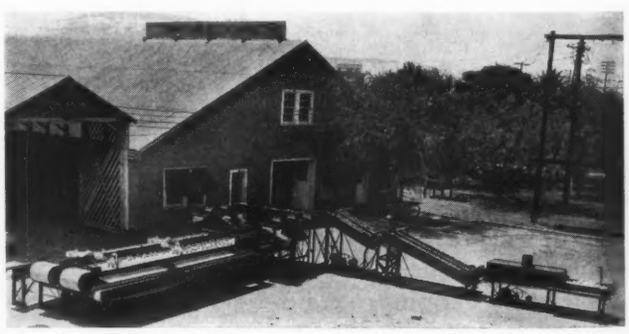
premium in 2-lb. jars of Manhattan Coffee resulted in sales of more than a million of the larger jars since a year ago March. Illustrations of the measuring spoon were carried in all the advertising and mention was made of it in all radio announcements. Dealers were given extra spoons, like those contained in the packages, for display purposes. Because of the success of the program, the company plans to continue the premium in the 2-lb. jar over a wider territory.

Three factors, however, must always be studied carefully in any premium usage: the product must be right; the premium must be right and the promotion must be right. The package itself is one of the important tools of that promotion and the prospective user of premiums will do well to observe the packages used by successful premium users if he too is to get the greatest value from premium advertising at the point of sale.

Tomato grader and packer

Of special interest to repackers of tomatoes is the "Tri-Pak" repacker developed by Tri-Pak Machinery Service, Inc., Harlingen, Tex. This equipment is said to eliminate much of the hand labor formerly entailed in repacking. It also separates grading and packing into two operations, resulting in a more uniformly sized and packaged product and greater production.

Tomatoes are emptied onto the dump belt and carried by conveyor into the wrap exhauster, where tissue wraps are removed by air suction. Then they pass to the first grading table where the culls are removed and the greens separated for return to the ripening rooms. The tomatoes then are carried by conveyor to the second grading table, which is divided longitudinally by a



partition. The partially ripe tomatoes are placed on one side of the table and those fully ripe on the other. This sorting operation enables the belt conveyor to take them to separate sizers. Once sized, the tomatoes go to the distributing belt and are swept into the packing bins by means of automatic deflectors. Carton conveyors travel along the front of the bins, taking the individually filled cartons to the cellophane wrapping machines. The equipment shown, in conjunction with a Hayssen wrapping machine, will turn out 1,800 to 2,100 cartons per hour, it is claimed.

ROMA ADOPTS ALSECO CAPS

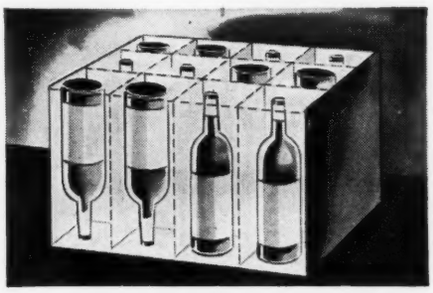
GRUELLING TESTS PROVE ALSECO SEALING EFFICIENCY

Searching for a better seal to protect wines against shipping and storage hazards, Roma Wine made exhaustive tests with Alseco Caps. After all the rough treatment they could devise, Alseco Caps still gave positive sealing; still were easy to open.

An Alseco representative will be glad to show you how tailor-made Alseco Caps can provide better sealing for your products.

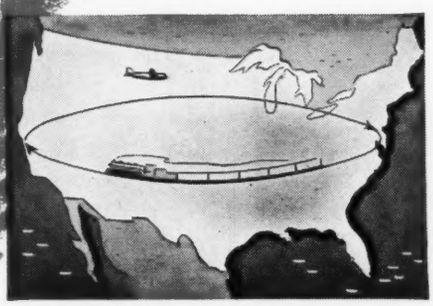
LABORATORY TESTS CAME FIRST

In the Roma laboratory, tougher-than-actual conditions were simulated. Here, Alseco Caps maintained a uniform vacuum; showed no leakers or breathers.



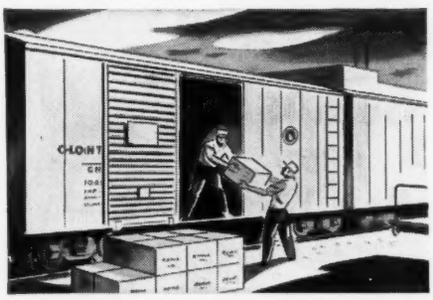
PACKED UPSIDE DOWN AND RIGHT SIDE UP

Test shipments were packed in standard shipping cases. In each case, half the bottles were placed upside down. Roma wanted to be doubly sure that Alseco Caps stand up in use.



5,000 MILES BY PLANE AND TRAIN

Test shipments went from coast to coast and back. Then bottles were stored. Weeks later, tests showed that every Alseco Cap had maintained original vacuum.



ALSECO CAPS PASS EVERY TEST

Later, full carload shipments were made, subject to everyday shipping and handling hazards. Again Alseco Caps passed the test. In no instance was there failure to maintain a positive vacuum.

ALSECO SEALS AND SEALING MACHINES

TAILOR MADE OF ALCOA ALUMINUM

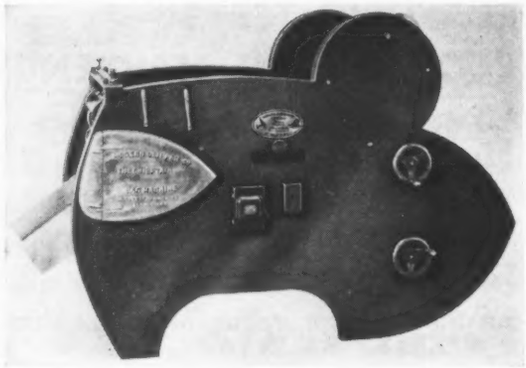
ALUMINUM SEAL COMPANY • NEW KENSINGTON, PENNSYLVANIA

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA — SALES OFFICES IN LEADING CITIES

BAG MAKING MACHINE

New Modern Clipper

The Chieftan . . . . . .



Makes Flat and Square Bags
All Heat Sealing Materials
NEW DESIGN • NEW EFFICIENCY
Write Today For Details

MODERN CONTAINERS CO.
3220 E. OLYMPIC BLVD., LOS ANGELES-23-CAL.

Save Time
Assure
Sift-Proof
Seams
with
New WRAP-ADE
Crimper

Silex Coffee swiftly and efficiently heat-sealed by **STANDARD BRANDS INC.** with new Wrap-Ade "Model B."

Speed limited only by speed of operator. "Model B," precision adjusted, efficiently operated by single, untrained girl employee.

Perfect Sealing is assured. Closures moisture, sift, dust and tamper-proof! "Model B" also comes equipped with automatic Hole Punches and Code Number Stamper.

Write for Free Catalog "F" giving full technical and performance data on proven "Model B" plus Volumetric Filling Machines, Conveyors and Automatic Wrapping Machines.

WRAP-ADE
778 BERGEN STREET, BROOKLYN 16, N. Y. • NE 8-8052

Distributors:
Shuman Equipment Co., Pittsburgh, Pa.
Paul L. Karstrom Co., Chicago, Ill.
Peter D. Bowley & Associates, San Francisco, Cal.

Frozen food packs shifting

Packaging of eight major frozen fruit and vegetable items in 1946 reveals appreciable changes in the relative importance of various container sizes and types, according to preliminary figures recently released by the National Assn. of Frozen Food Packers. Especially evident is a shift to retail sized packs and a decline in large and small institutional packs—a trend apparent in comparative figures for the two preceding years of 1946 and 1945.

Nearly 70% of the frozen spinach packed in 1946 went in retail sized containers, a much higher percentage than in 1944 and 1945. The proportion of the pack going into small institutional sized packs declined sharply in importance.

Approximately 15 million lbs. of a total 23 million lbs. of frozen asparagus went into consumer sized cartons, principally 12-oz. packages. The pack in $2^1/_2$ lb. cartons decreased considerably from 1945.

Consumer sized packs of apricots accounted for $2^1/_2$ million lbs. more in 1946 than in 1945. The 30-lb. container was reduced in usage from 43 to 27 million lbs.

The 30-lb. tin can continued as the predominant container for packing frozen red sour pitted cherries, with 78% being so packed. Barrels also continued to decline in importance for cherries in 1946. The general trend toward consumer sizes continued, with more cherries being packed in these containers than in any previous year.

Consumer sized packs, principally 12-oz., gained tremendously in importance in frozen peas in 1946, accounting for 70 million lbs. as compared with 39 million in 1945. The pack in small and large institutional container sizes dropped slightly.

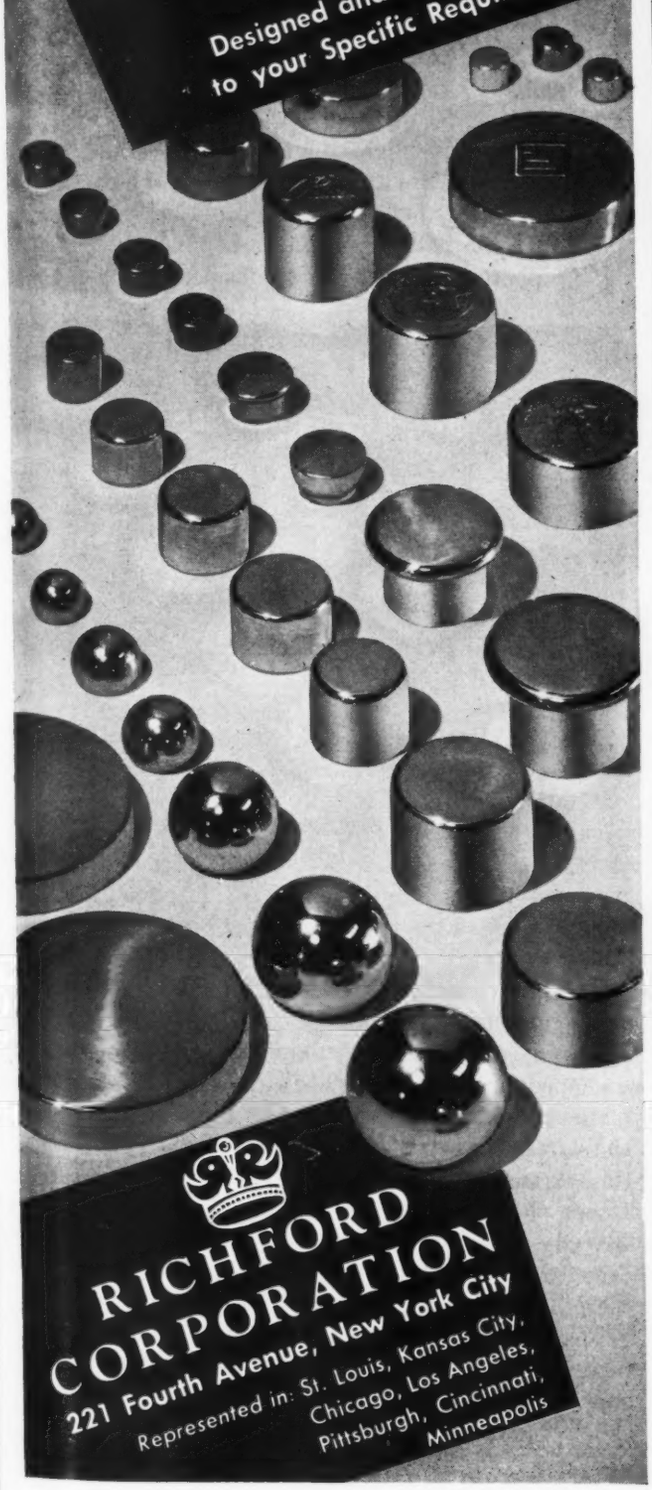
The strawberry market showed that the expansion of packs in 30-lb. containers, mostly tin, was the most significant trend in that field, with usage increasing 158% over 1945. Retail carton packs advanced nearly 128% in 1946. Usage of small institutional sizes declined, with barrels and other large containers being reported as slightly higher.

The trend toward consumer sized packs was apparent in the frozen cut corn market, where 6.2 million lbs. more were packed for retail than in 1945. Small institutional sizes declined slightly, with large sized packs showing a moderate increase.

Retail sizes of frozen peaches doubled from 1945 to 1946. Large container sizes were sharply reduced, with 30-lb. containers going from 63 million lbs. in 1945 to 25 million lbs. in 1946 and comparable declines in other large sizes. The 10-lb. size increased slightly, with the other small sizes of from 1 to 10 lbs. in weight declining slightly.

The frozen food packers' preliminary figures indicated that the total packs of frozen corn, peas, asparagus, spinach, red sour pitted cherries and strawberries increased in volume in 1946, with apricots and peaches showing a decline.

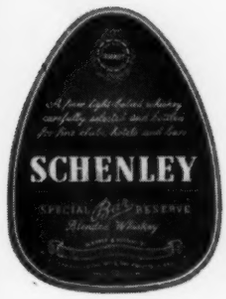
Top off
YOUR BOTTLE OR JAR with a
RICHFORD METAL CLOSURE
Any Size Plain or Embossed Any Shape
or
Designed and Manufactured
to your Specific Requirements

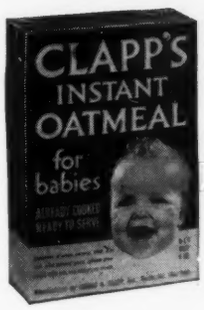


RICHFORD
CORPORATION
221 Fourth Avenue, New York City
Represented in: St. Louis, Kansas City,
Chicago, Los Angeles,
Pittsburgh, Cincinnati,
Minneapolis

Effective
SELLING JOB

Your LABEL must be effectively designed and skillfully lithographed to induce sure-fire sales day after day. Quality labels by Sale Lithograph reflect the superiority of your product.





Your WRAPPER should be designed and lithographed to impress itself upon your prospect's mind. Wrappers produced by Sale Lithograph stand out!

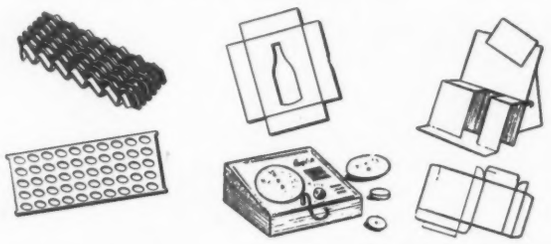
Your COUNTER or WINDOW DISPLAY should be worth the valuable space given it by the store. Dealers always assign their best spots to the most attractive displays.

THE SALE LITHOGRAPH CO.
Color Lithographers
Since 1904 Devoted to the Production of Fine Lithography

GOOD DIECUTTING and EMBOSSING = A GOOD IMPRESSION

Lansky has been diecutting paper, cardboard, rubber, sheet plastics, thin metals and Tek-wood for over twenty years.

That's why you can be sure that we will do a good job—that your product or display will make a good impression. Specializing in heavy diecutting and handsome, high-relief embossing, we offer our unique facilities at reasonable cost.



THESE ARE SOME OF THE INDUSTRIES WE SERVE:

BOX PRINTING PLASTICS
RADIO TOYS LEATHER GOODS
ADVERTISING ELECTRICAL

For complete information, see

LANSKY DIECUTTING CO.
196 GREENE STREET NEW YORK 12, N. Y.

STEEL RULE DIES • DIECUTTING • EMBOSSING • DISPLAY MOUNTING • FINISHING

CUSTOM PACKAGING
of **DRY** and Liquid Products

Your production problem can be eliminated by Seaboard Service:

- Mixing and Compounding
- Filling
- Labelling
- Shipping
- Materials—all or part

Whatever your packaging problem may be—for an expert solution—

Write, phone, wire

SEABOARD MFG. LABS., Inc.
Tulip & Dauphin Sts., Philadelphia 25, Pa.

Herbs of distinction

The House of Herbs, Inc., producers of flavories from its own farms, is now issuing its entire line redressed in new labels and caps.

Objectives of the redesign were to insure distinct company and product identity, achieve consumer recognition of the entire line of herbs and spices as members of a family group and emphasize the "gourmet" quality of House of Herbs products.

Illustrated is the standard design adopted—a scalloped white oval on colored backgrounds to carry the face panel copy. The name of the House of Herbs, Inc., increased in size, appears as the first line of the reading copy. Pegasus, the trademark, used only occasionally on former labels, is now featured in silhouette form with a decorative embellishment on each side. This serves to highlight the quality appearance of the labeling in accord with the character of the product.

Color presented an interesting problem, since the line included some 40 different items, six of which are shown in the photograph, and since consideration had to be

given to relating the color to the product. Three basic color groups were used and, in most cases, coordination achieved—a green label for parsley, a green, dried herb; a coral red for zesty types of herbs and spices used in heavy seasoning and a gold-yellow for products like mustard, curry powder, caraway and similar types of the more sharp and pungent herbs and spices.

The photograph delineates one of the features of the redesign—the lithographing of the caps. Each carries a design, with Pegasus in color centered in a white scalloped circle against a background of the key color of the product and a small white line running around the skirt of the cap. On the band of the key color which rims the top of the entire cap, the words, "Connecticut House of Herbs," appear in white to emphasize more strongly company identity. The cap design combines decorative appeal with functional value, since many of the products appear on store counters below eye level.

The over-all effect of the redesign of labels and caps carries out the quality character of the House of Herbs line of products and its uses.

CREDIT: *Labels and caps designed by Frank Gianninoto & Associates, New York.*

FOOTNOTE TO THE FUTURE*

★ Fast labeling

★ Lightweight—strong

★ Increase production

★ Reduce production costs

★ Reduce shipping costs

★ Simplify inventories

★ Easy, fast filling

*Anchorglass standard Vegetable and Fruit Jars are here to stay

NO doubt about it — Anchorglass standard Vegetable and Fruit Jars have an important future in the food packing industry.

That's because packers everywhere have learned of the important production advantages that this container offers them. They know that with Anchorglass standard Vegetable and Fruit Jars they can keep production costs down—keep profits up.

For example, long production runs with minimum downtime for changeovers mean smooth, uninterrupted plant operation with a simplified glass container inventory problem. You get high-speed production runs because standard jars handle faster on your production lines. The smooth cylindrical shape simplifies and speeds up label application.

Shipping costs are low, too, because Anchorglass standard Vegetable and Fruit Jars are lighter in weight than non-standard styles. Yet they're exceptionally strong. Carton size—and cost—is reduced because standard shapes waste no space. And, of course, Anchorglass standard Vegetable and Fruit Jars cost less than non-standard designs.

With all these advantages it's pretty safe to say that Anchorglass standard containers are here to stay.

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CONTAINERS and CAPS

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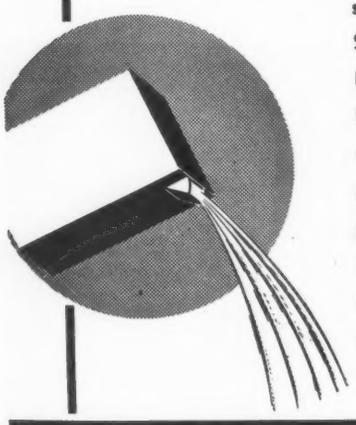
POUR SOME OF AMERICA'S BEST KNOWN PRODUCTS!

Yes, from Coast to Coast many big name granular packaged products use aluminum Seal-Spouts. That's because Seal-Spouts are easy to open . . . easy to pour . . . easy to measure. They keep contents safely sealed and fresh longer. Seal-Spouts are preferred by consumers everywhere. Seal-Spouts, available in various sizes, are *automatically* inserted in your plant on your packaging line.

Send us a sample of your product. We will return it Seal-Spouted.



SEAL-SPOUT CORP.
361 Jeliff Avenue Newark 8, N. J.

Typographical arts award

Helene Curtis Industries, Inc., was winner of one of the 15 awards made by The Society of Typographical Arts at the Twentieth Annual Exhibition of Design in

Chicago Printing. The award was for outstanding packaging as exemplified by the unusual handling of treatment, sophistry of design and quality of printing for the Helene Curtis powder box shown above.

Automatic celery packer

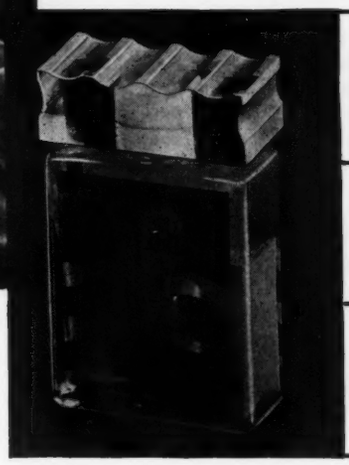
Illustrated is the second and more improved model of two automatic celery-wrapping machines developed at Sanford, Fla., by Louis Marks, machinist and celery grower, and George Stine, head of Stine Machine & Supply Co., Sanford.

Celery of fairly uniformly sized bunches is fed into the machine by an endless belt. Fingers grasp the bunch of celery, compress it and feed it to the wrapping

mechanism which wraps and heat seals the stalk. Any heat-sealable film is used; it is fed from a roll at the rear of the machine and automatically cut into sheets measuring 8 by 14 in. for the wrapping. A label is automatically enclosed in each package.

Speed of wrapping is at present 15 bunches per minute, which the inventors admit is too slow. They hope to step up the speed materially and at the same time adapt the machine for the wrapping of other vegetables such as carrots, broccoli and those which can be received in reasonably uniform sizes and shapes.

Decorators and Printers



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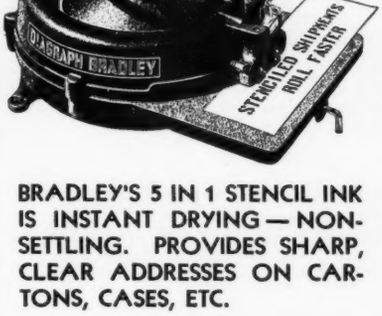

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That's not double-talk. The right finish is important to your package—makes your package a leader in the competitive market. The best-looking colors, the most effective designs need the sparkling richness of good coating or the distinctive charm of embossing or die-cutting. Crawford excels at making your package a work of finished art. Our special process, "LUSTRALITE", provides the premier coating for gloss and protection.

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60 new Fuller brush packages

More than 60 packages for nearly 100 different Fuller Brush Co. products have now been restyled in accordance with the new family design announced with the appearance of the company's new toothpaste package last year (MODERN PACKAGING, May, 1946, p. 136). The Fuller packages won top award for art work and printing at the recent Folding Paper Box Assn. competition (See p. 114 this issue).

Because of Fuller's direct-selling program, emphasis has been placed on package styling intended to arouse lasting approval, rather than instant but fleeting over-the-counter appeal. The result is a design harmonizing with the greatest number of home schemes and one that symbolizes uniformly high quality and cleanliness.

An influential factor in determining the selection of the final design was a questionnaire consisting of photos of the old Fuller furniture polish container in comparison with four experimental designs submitted to Fuller salesmen. Out of 1,226 replies received, the chosen

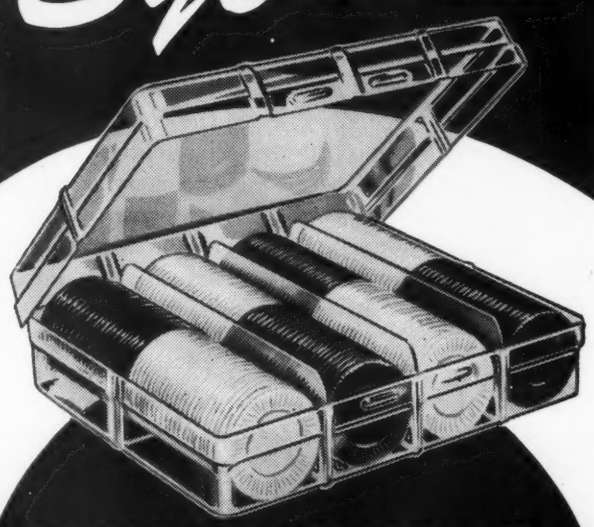
design received 460 votes as being the most pleasing. The other designs received 280, 268, 143 and 75 votes respectively. From other designs also submitted for choice, the feather motif finally adopted received the majority of votes in every case.

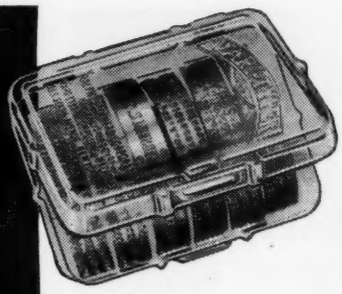
Essentials of the new design are a white background, carrying an all-over, bluish-gray feather pattern and a revamped trademark reverse printed in teal blue, chosen because of highest preference for this color. The design is equally adaptable to rectangular, cylindrical or oval shapes as well as for bottle and jar labels. Where there might be difficulty in register, such as at the seams of lithographed cans, gray panels have been used to eliminate the matching of the diagonal feather edges.

Beauty-wise, the company believes the new packages are an important aid in building acceptance for Fuller products, because of their appeal to women.

CREDITS: *Designer, J. Gordon Lippincott & Co., New York. Cartons, National Folding Box Co., New Haven, Conn., and St. Louis Carton Co., St. Louis, Mo. Cans, American Can Co. and Continental Can Co., New York. Bottles, Swindell Bros., Baltimore, Md., and Diamond Glass Co., Rohrerstown, Pa. Labels, Hart & Downey, New York.*

FOR PROVED *Eye* APPEAL





CUSTOMERS like what they see when they see your product packaged in eye-appealing, transparent Pyra-Shell containers. You can't find a more attractive display package.

Compartmented Pyra-Shell boxes are particularly valuable in unit-packaging of popular assortments. Dealers find them easier to order, easier to display, easier to sell. Retail unit sales are larger — and so are yours.

Find out how standard — or, if necessary, special — Pyra-Shell containers will boost the sale of your line. Simply send a sample product or assortment for complete recommendations.

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PACKAGE YOUR PRODUCT IN *Pyra-Shell* Reg. U. S. Pat. Off. **TRANSPARENT BOXES**

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CODIE-KAY is the Custom Way

ELECTRIC NET-WEIGHING FILLING

- **BAGS**—fully automatic filling...folding...heat sealing.
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Frozen Foods Exposition

Many package suppliers and machinery manufacturers took advantage of the first national Frozen Foods Exposition and Convention at San Francisco, March 19 to 21, to exhibit new products. Over 100 firms displayed their wares at this first independent frozen food exposition which attracted some 7,000 dealers, packers and distributors.

Mason T. Rogers, Packaging Institute president, in one of the featured speeches of the convention, urged the industry to spend considerable research on its packaging problems. Such research, he charged, had been neglected while packers concentrated on production problems. He alluded to the heavy frozen food inventories in warehouses, one of the industry's major problems, and declared an acceptable consumer package "as easy to open as a package of gum" is essential to increased sales.

Listing the "ideal requirements" for retail cartons, he said they should be in standard sizes, handled at high speeds and convenient for the customer. A recent survey, he asserted, showed that over half the industry was still using the same basic package introduced 15 years ago; namely, a combination of bag or liner, waxed carton and overwrap.

Fibreboard Products, Inc., displayed a new automatic waxed-carton forming machine, which is said to be capable of taking a die-cut and scored blank and forming almost leakproof cartons at a rate of up to 75 per minute. The automatic models can accommodate any size from 1 lb. up to 5 lbs. The machine does away with the necessity of pre-folded cartons and no glue is used. The blank is stamped from 24-point natural sulphite boards with cold waxed inner and outer surfaces. It was designed primarily for wet packs such as spinach.

The Goodyear Tire & Rubber Co. introduced a new package called the "Plio-Pak." A three-part box, it consists of an interchangeable chipboard top and bottom, plus a Pliofilm bag which is opened on a mandrel. The product is poured into the bag, which is then heat sealed and frozen with the seal side up. After freezing, the bag is reversed in the carton so that when the lid is removed the full color and arrangement of the product may be seen through the film.

A new carton-forming machine shown by Waldorf Paper Products is said to have a capacity of 45 per minute. It uses a half-pound box, fed as a die-cut blank, with a waxed outer surface and cellophane liner.

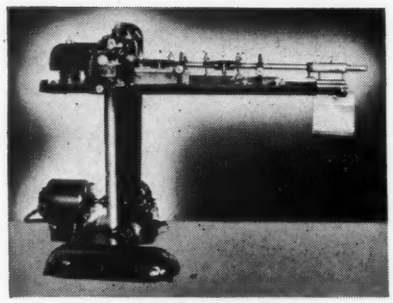
Package Machinery Co., Springfield, Mass, demonstrated its overwrap machine, operated at a rate of 100 per minute. New features included an automatic throw-out clutch and new jog switches for safety.

Food Machinery Corp. exhibited its carton filler, supplemented by colored sound movies showing the machine in operation.

Reynolds Metals Co. displayed a new food tray made of 0.004 foil with crimped corners and rolled edges. Each tray has an individual slide-on lid and sloping sides permitting easy stacking. The trays, about 1 by 3

amsco

SOLVES



Amsco Automatic Rotary
Bag Sealing Machine

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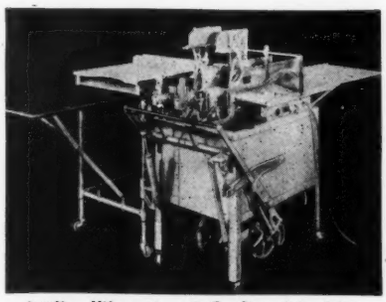
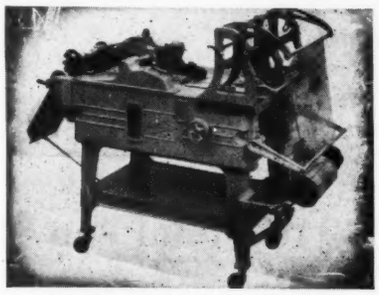


Miller Wrapping & Sealing Machine

PACKAGING



Simplex Bag Making Machine

PROBLEM

YOU CAN cut costs and speed production at the same time—with Amsco Packaging Machinery. These three models are boosting efficiency in many plants right now. Other models for:

- **bag sealing**
- **bag making**
- **bag and carton weighing and filling**
- **bag aligning and conveying**
- **wrapping**
- **sheeting and gluing**
- **sandwich making and wrapping**
- **hand and foot operated sealing devices**

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If you want Distinctive Packaging . .

Modern merchandising requires your product to stand out "in a crowd."

Lusteroid vials and tubes meet this requirement with an almost unlimited color selection—clear or opaque. Light in weight, yet strong, rigid and unbreakable, Lusteroid containers combine full product protection with sales helping visibility.

Moreover, there are substantial savings in shipping, handling and labeling which soon cover the cost of Lusteroid packaging.

Sizes from ¼" to 1-¼" in diameter. Lengths up to 6" Cork, slip-on and screw-cap closures. Write for full details.

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Formerly Lusteroid Division of Sillcocks-Miller Company

Office and Factory
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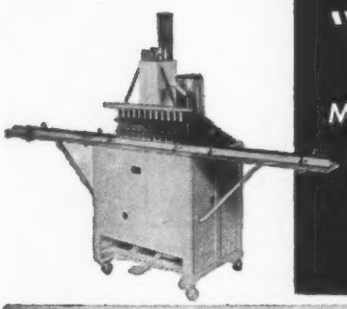

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ALLOWS OPERATOR USE OF BOTH HANDS

TOTALLY ENCLOSED MOTOR UNITS

Here's the answer to your bottle filling requirements. The Ertel ESA, in the low price field, will fill bottles accurately and economically. Write for full information on this quality-engineered Ertel unit.

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have solved many cementing problems where others have failed

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Affiliate, N. Y. RUBBER CEMENT CO., INC. (EST. 1895)

by 4 in. can also be used for cooking as well as storing, according to Reynolds officials.

Doughboy Industries displayed a new heat sealer adaptable to bags up to 3 lbs. Features include rubber guide arms and a pre-heating unit leading to heated rolls controlled by individual adjustable thermostats. Sealing capacity is said to be 60 per minute.

Knapp Mfg. Co. showed a working model of their new "Knapp-Wrap" which is said to perform with any heat-sealing overwrap at a rate up to 70 per minute.

Fleischhacker Paper Box Co., San Francisco, exhibited the "No-Glu" folding tray (see MODERN PACKAGING, July, 1946, p. 113).

Other exhibitors included: Simplex Wrapping Machine Co., high-speed bag machine; Stecher-Traung Lithographing Co., overwraps, cartons and lithography; Better Packages, Inc., tape shooters; Rapids-Standard Co., vacuum lifts and conveyors; Milprint, Inc., cellophane bags and overwraps; DuPont, color movies and display of visible packages; Shellmar Products Co., "scientific packaging;" Chisholm-Ryder Co., Inc., heavy equipment for washing, sorting and grading; Empire Box Co., film-lined cartons; Hayssen Mfg. Co., overwrap machine; Exact Weight Scale Co., quantity liquid and bulk measuring devices; King Sales & Engineering Co., fillers, hoppers and conveyor belts; Rossotti Lighographing Corp., cartons and wraps; J. L. Ferguson Co., automatic marking devices; Toledo Scale Co., automatic weighing machines; Marathon Corp., paper bags, cartons and overwraps; American Can Co., metal-ended, wax-impregnated and coated fibreboard cartons; Acme Steel Co., machine and hand-operated stitchers and sealers; Tompkins Label Service, labels; Blake, Moffitt & Towne, West Coast distributors of visible packages for Sylvania, and The Dobeckmun Co., films and foils, and heat-sealing machines.

The exposition was under the management of Clapp & Poliak, New York.

1946 metal can volume

Last year's volume of metal can shipments to packers of all types of products was the second largest in the history of the can making industry, according to the Can Mfrs. Institute.

Citing figures of the U. S. Dept. of Commerce, the Institute points out that 1946 shipments totalled 2,759,519 tons. This volume is approximately 3% less than that for the peak year of 1941 and exceeded both the 1945 and 1944 output. The heaviest shipments occurred during the third quarter of 1946. Peak month was August, when 343,000 tons were shipped.

Broken down into categories, the metal containers were rather evenly distributed among packers, with the exception of fruit and vegetable cans. The latter accounted for more than 40 out of every 100 cans. Condensed and evaporated milk accounted for 25. Other foods took about 25 cans, while non-food products got approximately 10 cans out of every 100.

Rayco Flock

Bliss Bros. Company of Attleboro commissioned Mason Box Company to create a distinctive package for their "Surefit" bracelet. The result: a two-toned lavender and purple flocked box, with metal gold-edge cover which reverses to form display tray whose pad is cream flocked. Use Rayco Flock for distinctive synthetic surfaces on any material.

VELVET • SUEDE • VELOUR • "SPANGLES"

WORKING SAMPLES FREE

Rayon Processing Co. of R. I., Inc.

PIONEER PRODUCERS OF
SURFACE-COATING FLOCKS

110 Tremont St., Central Falls, R. I.

as seen in TIME

Flavor protected

When coffees arrive at grocer's in the bean, they can be ground to customer's taste, taken home in original bag. Betner's coffee bags keep flavor *in*, everything else *out*—and provide a tight re-seal by the grocer.

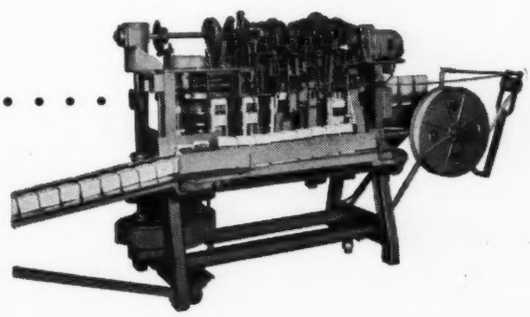
Food-packaging problems vary

Fully automatic and economical coffee-packing is one problem. Other foods have theirs, all different. When a food-processor comes to Betner, his particular problem gets a tailor-made solution. The Betner bag finally designed will *fit*.

Betner
a *big name* in bags

A complete bag service—from idea to finished bag to machinery for closing the bag. Present clients, a "blue book" of the food industry. 1,000,000,000 Betner Bags used last year. Bag problems invited, solved. Write us about yours.

Benj C Betner Co, Devon, Pa.
Oklahoma City, Oklahoma; Richmond, Virginia, Los Angeles, California; Appleton, Wisconsin.



The Benco Bag-Closing (steel-tie) Machine used in packaging many leading coffee brands. What Fleetwood, Atwood, Martinson, Duncan and others get is product-protection from roaster to consumer—*plus* low cost of initial package, low labor and shipping cost, high display value, flavor-saving reclosure. Want full protection—from processing to pantry shelf? See Benj C Betner Co, Devon, Pa.

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SALES REPRESENTATIVE or Manufacturers Agents Wanted in most leading cities by progressive Mid-Western converting plant specializing in laminating, coating, impregnating and embossing of various types of packaging and decorative materials including foil, paper, acetate, etc. Give details in first letter. Box No. 507, Modern Packaging.

AGENTS WANTED by packaging manufacturer. Moulded metal boxes, wood boxes, moulded plastic boxes, fancy handmade cardboard boxes. Highly competitive prices. No objection to agent handling other non-competitive lines. Exclusive territorial arrangements. Commission basis. Write J. J. Einhorn Company, Malley Bldg., New Haven 10, Connecticut.

3-COLOR ANILINE Press—Brand New—Heavy Construction—Prompt Delivery. Maximum Web—33″; Printing Width—30″; Printing Length—23″. Registration adjustable while press runs. Speed—About 500 ft. per min. Price—$4750.00. F.o.b. Phila., Pa. Box 519, Modern Packaging.

PACKAGING ENGINEER. Opportunity in well established company for man who wants to make packaging his career. Should have some technical knowledge of corrugated carton manufacture, and general knowledge of glass, metal, and wood containers. Please tell us about your education, experience, salary requirements. Box 529 Modern Packaging.

PACKAGE YOUR PRODUCTS IN ATTRACTIVELY PRINTED BAGS

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BAG MACHINERY

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ANILINE WEB PRINTING PRESSES

POTDEVIN Oil Ink Printing Presses, Waxing, Gluing, Saturating, and Laminating Machines.

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WANTED: USED MACHINERY as follows: Slitter and Rewinder—any make up to 62″ width "Cameron," "Langston," etc. O.B.I. presses and dies for metal ends of paper cans or metal seaming machines; "Maxams," "Knowlton," etc. Strip Feed presses—quart size cans or smaller "Maxams" "Lefler," etc., metal end curlers. Fibre Can machinery of any kind. Box 523, Modern Packaging.

AGENTS WANTED by Display Manufacturer. Wood display cases. Lithographed cardboard displays. Highly competitive prices. Exclusive territorial arrangements, Commission basis. Write to The J. J. Einhorn Company, Malley Bldg., New Haven 10, Connecticut.

ANILINE PRESSMAN thoroughly experienced. Steady Job. Top Pay. Los Angeles Plant. Write full qualifications. Box 520, Modern Packaging.

MANUFACTURER WITH excellent facilities for producing bulk or pkgd. pharmaceuticals, soaps, household specialties, toilet prep. and allied chem. products, desires salesmen with established contacts. Splendid opp. for right men. Our organization has been advised of this ad. Box 521, Modern Packaging.

SALESMAN—executive, mature, 20 years pleasant acquaintance in New York Metropolitan Paint and allied trades, wants responsible position. Could aid on contacts, or open and maintain New York office for out-of-town concern desiring New York entree. Not at present in the trade. For details please write Box 522, Modern Packaging.

POSITION OPEN: Man not over 35 to design and establish specifications for shipping containers. Should possess knowledge of corrugated and wood boxes, metal and fiber drums. Large midwest firm shipping pharmaceuticals and chemicals. Write stating experience and salary desired. Replies held confidential. Box 524, Modern Packaging.

FOR SALE—Hobbs 45″ Double Scoring Machine. Meyer-Stark Mfg. Co., 2900 Doris, Detroit 6, Michigan.

FOR SALE: 50,000 first-quality wooden boxes of sturdy ¼″ White Pine, inside dimensions 12½″L x 6″W x 3¾″D, interlocking corners, separate cover. New merchandise in first-class condition, storaged in own dry warehouses. Original cost 20¢ each, but storage space required, offering at exceptionally low price of 12¢ each, f.o.b. our plant, immediate delivery. Sample for your inspection and experimentation upon request. Box 526, Modern Packaging.

VOLUMETRIC FILLER, Triangle, Model G, capacity 8 to 9½ cubic inches, new in original crate, $160.00. Illinois Baking Corporation, 2230 S. Union Ave., Chicago 16, Illinois.

BUYER—PACKAGING Materials Nationally known Bakery chain has opening for Buyer. Must have experience in Packaging Field. Buying experience helpful but not necessary. Salary open. Excellent opportunity for advancement with increased earnings. Write Box 527, Modern Packaging.

INCREASED SALES and profits—Cost engineer can develop increase in profitable volume and savings on sales and distribution as well as production costs. Full or part time. Box 528, Modern Packaging.

Aniline Pressman. Experienced Cellophane Printer. Top Pay. Southern California Plant. Write full qualifications, Box 530, Modern Packaging.

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They're easy to fill—
easy to label—
easy to handle.

HAZEL-ATLAS
GLASS CO.
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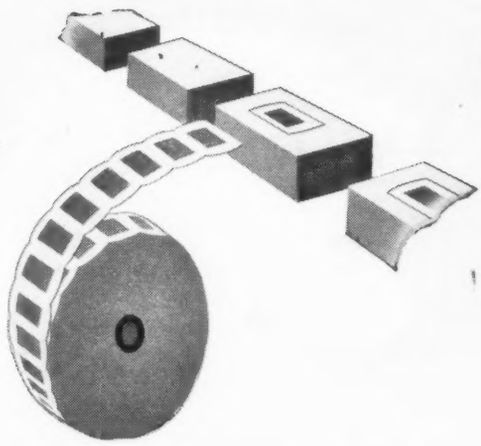
TODAY'S NEW IDEAS

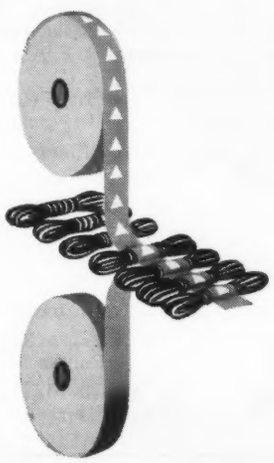
MAKE PACKAGING TRENDS TOMORROW!

Packaging trends grow from packaging ideas. Tomorrow's packaging of foods and other products will utilize the principles of Marathon developments like these:



Heat-Sealing Package Labels

. . . Completely automatic application of heat-sealing labels brings new efficiency and new economy to an old packaging problem. Marathon's technicians and product development staff perfected Super Seal Labels to meet the diverse requirements of varied branches of packaging in which heat-seal labeling is a basic packaging operation.
Today's idea—tomorrow's trend!



Heat-Sealing Continuous Banding

. . . Marathon's Kartridg-Pak banding development recently introduced is an entirely new concept in packaging. Continuous strip banding of products by heat-sealing is done automatically. Each product is separately labeled. Positive brand identification and more efficient packaging lines are two major advantages.
Today's idea—tomorrow's trend!

These two Marathon ideas were featured in machine demonstrations at Marathon's Exhibit at the Packaging Exposition, Philadelphia. Hundreds of visitors got a "preview" of the efficiency and adaptability of heat-seal labeling and banding.

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Modern PACKAGING

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From the first tasty sip, consumers know unmistakably that coffee brewed from the new Instant Sanka "unit" package has all its original flavor and aroma. General Foods permanently safeguards goodness in air-tight, liquid-tight, moisture-vapor-proof Metalam*, a heat-sealing lamination of aluminum foil and films.

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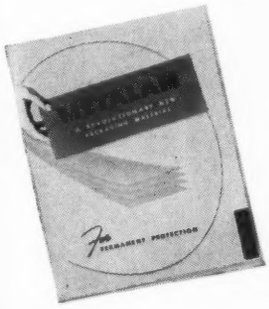

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Write today for this illustrated booklet which fully describes the packaging magic of "METALAM" and offers suggestions on how it may solve your packaging problems.

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Your product takes the center of the sales stage when you show its beauty and eye-appeal in sparkling, transparent Vuepak.

That's what Prophylactic proved again when this smartly designed brush, comb and mirror, in an individual "showcase" of rigid Vuepak, made outstanding sales records. Retailer cooperation reached a new high, too. Wise merchandisers know that products in Vuepak (1) take less selling effort; (2) display and stack better; (3) are protected against shopwear; (4) command quality prices.

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Vuepak is a transparent, tough, rigid, beautiful Monsanto cellulose acetate.

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VUEPAK TRANSPARENT PACKAGING MATERIAL

SERVING INDUSTRY...WHICH SERVES MANKIND

These unique new *Shell-Pli labels are as distinguished as the products they identify. Their smooth, rich appearance is protected by a laminated film which makes them impervious to soil, and stain, and completely liquid repellent. If your product requires a label of outstanding appearance and unusually long life, consider Shell-Pli.

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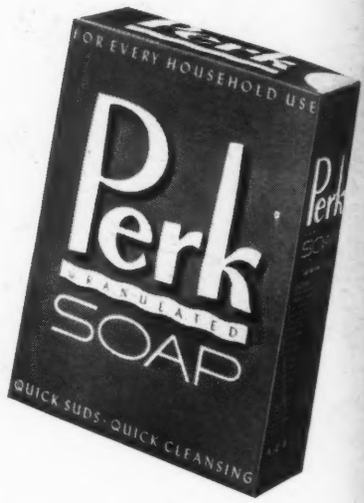
Look at what's new in Soap Packages!



TRILL designed by
Robert Sidney Dickens & Associates

PERK designed by
Raymond Loewy Associates

Setting the packaging pace seems to come naturally to Armour and Company. Last year they made packaging news with the spectacular restyling of their Star line. Early this year they introduced the new detergent TRILL in the smart new carton pictured above. Soon after this the PERK soap carton appeared beautifully restyled.

Both of these packages are outstanding examples of functional design definitely created for the feminine eye. Good display . . . maximum readability . . . easy identification . . . these were achieved by smart styling and the use of large areas of attention-getting color.

The distinctive designs of these packages are complemented with bright, clean reproductions by Michigan Carton. The colors are sharp and sparkling . . . register is perfect . . . the printed cartons enhance the appeal of the original designs.

Armour, like many another national merchandiser, came to us for the production of their TRILL and PERK cartons because they know that they can depend on Michigan Carton for packages that *sell*. As we have said before, "You can always sell more of a good product when it is in a good package." And for good packages, see the Michigan Carton Company.

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BATTLE CREEK, MICHIGAN

PACKAGING ENGINEERS FOR THE NATION'S TOP PRODUCTS